Delaware Department of Natural Resources and Environmental Control

Livable Delaware Implementation Strategy

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Livable Delaware Implementation Strategy

I. Introduction

The mission of the Department of Natural Resources and Environmental Control (DNREC) is:

> "to ensure the wise management, conservation, and enhancement of the state's natural resources, protect public health and the environment, provide quality outdoor recreation, improve the quality of life, and educate the public on historic, cultural, and natural resource use, requirements, and issues."

The Department accomplishes this mission through a myriad of regulatory and non-regulatory programs designed to control emissions to the air, land, and water, and to preserve and maintain our natural resource heritage. Livable Delaware has as its cornerstone the preservation and enhancement of our quality of life. "Quality of life," however, encompasses a wide variety of issues from the air we breathe, the water we drink, public safety, education, recreational, cultural, and employment opportunities, and many others.

In the Department's view, however, the environment and Delaware's ability to enjoy and recreate within that environment are paramount to the success of Livable Delaware. Without clean air, clean water, and a healthy ecosystem, quality of life is greatly diminished. Therefore, the activities of the Department in accomplishing its mission are crucial to the success of Livable Delaware.

II. Livable Delaware Programs

On March 22, 2001, Governor Minner unveiled the Livable Delaware growth initiative for the First State. For DNREC, Livable Delaware involves every Division within the organization and every employee in the Department. Virtually all of the Department's programs, in one form or another, contribute to Delaware's "quality of life": clean air, clean water, unspoiled landscapes, biodiversity, open space, and outdoor recreation opportunities, to name a few. However, the focus of executing Executive Order No. 14, that is, examining the Department's policies, programs, and regulations in light of "Shaping Delaware's Future: Managing Growth in 21st Century Delaware, Strategies for State Policies and Spending" ("the Strategies"), has been to identify programs that are, or can be, utilized to direct growth and control sprawl.

For the purposes of this plan, the Department has drawn a distinction between programs that can, or may be altered to, actually impact or direct growth and those programs that contribute to our quality of life, but ordinarily would not be considered a growth management tool. For instance, our parks maintenance program is clearly not a growth management tool; however, properly maintained and accessible parks where citizens can recreate are an important contributor to our quality of life. These "supporting" programs may not be mentioned further in this plan, however, their continued existence and enhancement are critical to the success of the broader Livable Delaware initiative. Goals for these programs, which are an integral part of the Department's mission, are described in the Department's Strategic Plan, which can be found in Appendix A.

The Department's Planners Technical Advisory Committee (PTAC) was tasked with responding to the requirements of Executive Order No. 14. The DNREC PTAC is comprised of professional planning staff and other representatives from throughout the Department who have a vested interest in planning and land use. In effect, the PTAC serves as the link between DNREC's technical staff and Department management (program managers/administrators and Division Directors).

The PTAC coordinated the completion and submission of Livable Delaware activity "templates" for their respective Divisions. The template format was supplied by the Office of State Planning Coordination and disseminated for use throughout the Department and other State agencies. Templates were prepared for each program that could be used to direct growth or impact sprawl.

DNREC has a vested interest in how growth occurs statewide. Increasing population, employment and commerce invariably translate into increased stresses on our natural environment and ecological infrastructure, through increased water resource needs, wastewater generation, non-point source pollution, air pollution and other impacts. Growth and sprawl also have negative consequences for maintenance of open spaces and recreational opportunities, habitat protection, biodiversity and preservation of the historically rural character of much of Delaware.

The Department has identified fifteen programs which might be used to address sprawl and direct growth. Many of these fifteen programs relate to some of our most important and challenging environmental and natural resource issues, particularly our clean air and clean water goals, how we manage water supplies and DNREC's initiatives in land management and biodiversity conservation. The following sections describe these fifteen programs, how they relate to growth and how they might be improved or enhanced to address the goals of Livable Delaware. A more complete description of the programs and how they relate to Livable Delaware can be found in the program templates in Appendix B.

Growth and Water Quality

Clean and plentiful water supplies, for consumption, swimming, fishing, agriculture and aesthetics are critical to Delaware's continued prosperity and yet nearly 85% of our surface water bodies do not meet federal or state water quality standards. For the past

five years or more, DNREC has been actively developing what is termed Total Maximum Daily Loads, or "TMDLs", a major strategic priority of the Department with respect to water quality. The Federal Clean Water Act requires States to develop these TMDLs for waterbodies in which existing pollution control activities are not sufficient to attain water quality standards. A TMDL sets a limit on the amount of pollutants that can be discharged into a waterbody such that water quality can improve and the standards can eventually be met. Achievement of TMDL targets is in large part predicated on where growth occurs and how we manage the water pollutants that accompany that growth. The availability of regional sewer systems, discharges from wastewater treatment plants, location and density of individual on-site septic systems, and the management of stormwater are all factors which impact our ability to achieve TMDLs. The following programs have been identified as having the potential to help direct growth and address our water quality issues:

- Delaware Water Pollution Control Revolving Fund and 21st Century Fund/Wastewater Management Account - Currently meets the goal of directing investment and future development to existing communities, urban concentrations and growth areas. At the same time it also addresses the goal of protecting the State's water supplies, open spaces, farmlands and communities by encouraging revitalization of existing water and wastewater systems and the construction of new systems within growth areas. The program does this by evaluating and ranking all projects eligible for State and Federal funding assistance using a ranking system that recognizes growth zones as defined in the Strategies for State Policies and Spending. Additional money is required.

- On-Site Wastewater Treatment and Disposal - This program reviews, field verifies, approves, and/or denies site evaluations for the suitability of soils for on-site wastewater treatment and disposal systems; reviews and issues non-binding statements on feasibility studies for proposed subdivisions and developments; reviews system design applications and issue permits for on-site wastewater treatment and disposal systems. Potential program improvements include the use of septic system incentives and disincentives to help direct growth, requiring community systems for new development, increased inspections for residential systems, differential permit fees according to designated growth zones and increased performance standards in basins not meeting water quality standards.

- Sediment and Stormwater - The Sediment and Stormwater Regulations authorize the Department, in cooperation with conservation districts, counties, municipalities and other local governments, to develop a comprehensive and coordinated erosion and sediment control and stormwater management program to conserve and protect land, water and other resources of the State. The Sediment and Stormwater Program regulates land development activity both during the construction phase by requiring temporary erosion and sediment control practices, and the post-construction phase with the requirement for stormwater management practices designed to minimize water quality and water quantity impacts from land development. Incentives for re-development in growth zones and expanded technical assistance are needed.

- Community and Large On-Site Wastewater Systems - This program reviews, field verifies, approves, and/or denies site evaluations for the suitability of soils, reviews systems design applications, and issues permits for large and community wastewater treatment and disposal systems. Inspections are conducted of newly constructed or repaired on-site wastewater treatment and disposal systems. Encouraging larger community systems that can eventually become part of regional sewer systems and avoiding the proliferation of individual on-site systems is recommended.

- Land Application of Wastewaters (Spray Irrigation) - This program issues permits for facilities (industrial, community, or municipal) to construct, operate and maintain a wastewater treatment facility, utilizing agricultural land for final application of the reclaimed water. Greater reliance on spray irrigation provides for better wastewater treatment, promotes preservation of open spaces and farmland and provides for aquifer recharge.

- National Pollutant Discharge Elimination System (NPDES) - The NPDES Program seeks to prevent, manage, and/or control the pollution from activities that affect or have the reasonable potential to affect the quality of surface and ground water of the State. Management of NPDES discharges is a critical element in achievement of TMDLs.

Growth and Air Quality

Another critical environmental issue directly impacted by growth and sprawl is clean air. Delaware has a serious problem with ground level ozone and is in violation of the federal ozone standard. The 1990 federal Clean Air Act Amendments contain provisions for the attainment and maintenance of the National Ambient Air Quality Standard for ozone and prescribe certain actions we must take to achieve the standard and consequences should we fail to meet it. The Act's provisions aside, clean air is important for the health and well being of Delawareans and is a critical requirement for our continued growth and prosperity. Growth and prosperity, however, also exacerbate our air pollution problems. More people and more sprawl translates into more air pollution; from cars, energy generating facilities, lawn mowers, boats, leafblowers and all the other trappings of prosperity. Attainment of the ozone standard will require that we try to minimize air pollution by directing growth into areas that will allow us proximity to employment centers, schools and recreational facilities and that will generally minimize ozone formation. Several program enhancements contained in this plan address our clean air goals.

- Local Air Quality Impact Analysis – Air impact analyses could be extended to include county and municipal development activity to better incorporate air quality in local land use decision-making. The use of models and other planning tools could be very helpful in ascertaining the impacts individual developments have on attainment of our air quality goals. Potential regulatory requirements could be waived in targeted growth areas and increased in "greenfields" to help direct growth.

- Alternative Commute – This new initiative would be designed to work with employers in "greenfields" to expand opportunities for employees to commute in a more energy-efficient and less polluting manner by ultimately producing less trips, possibly through the expansion of Ride Share Delaware or use of incentives or disincentives to reduce VMT's.

Growth and Water Supplies

Water supply is another overarching and serious concern for DNREC and for future growth in Delaware. Maintaining adequate water supply capabilities for domestic consumption, industrial use, habitat and fisheries protection, and agriculture, especially during times of drought, has been a challenge for Delaware. Increasing population puts additional pressure on limited resources and sprawl puts additional strain on distribution and treatment infrastructure. Protection from contamination and a thorough understanding of the occurrence and availability of our state's limited resources are critical to maintaining a Livable Delaware.

- Source Water Assessment and Wellhead Protection - This program addresses the need to protect the sources of water for public drinking water system by providing for the following: (1) Maps which identify areas around Public Water Supply Wells that are the most likely to affect the quality of drinking water for that well or surface water intake; (2) Identification of all of the known existing or potential sources of contamination within mapped source water areas; (3) Preparation of an assessment of the relative susceptibility of each public water system to contaminants within their source water area; and (4) Providing this information to the water suppliers and to the public. This program is federally funded and was authorized by legislation in 2001.

- Water Supply Planning – Directing growth into urban and developing areas requires that the necessary services such as water, sewer, and electric are available and dependable. Delaware's water supplies have come under scrutiny over the past decade. Our supply is a finite, natural resource which requires that DNREC have the necessary data and regulatory control for both surface and ground waters statewide in order to manage that resource to meet increasing needs. It is proposed that DNREC enhance its water supply program to better manage this resource.

Growth and Land Management

DNREC either owns, maintains, leases or in some manner preserves a great deal of land, either through fee simple acquisition or via conservation or other easements. In most cases our land holdings amount to permanent preservation and removal of those lands from the pressures of development. This is a straightforward technique for directing growth, however, it is not the only means, and it is very costly. Private land owners, other conservation-oriented organizations and other units of government can and have done much to remove land from the development picture. More land will inevitably be

purchased or protected by these means, and additional resources will be required. Other avenues for redirecting growth and preserving natural areas and allowing for more informed decisions may be enhanced through the following means:

- Brownfields/Voluntary Cleanup Program (VCP) - The redevelopment of contaminated commercial and industrial sites is a tool that can be used to promote growth management and sustainable development principles. Brownfield redevelopment combats sprawl, concentrates development in existing areas where infrastructure and services are already in place, attracts additional development, and creates jobs. Furthermore, replacing the development of greenfields protects natural resources and decreases public costs. The Department is committed to coordinating its Brownfield Program efforts with the Delaware Economic Development Office (DEDO) and to explore innovative ways in which to utilize the Hazardous Substance Cleanup Act (HSCA) Cleanup Fund to include mixed funding opportunities and State funded Brownfield Preliminary Assessments. Other improvements to the program include enhanced tax incentives and additional personnel to conduct assessments and coordinate brownfield redevelopment initiatives.

- Conservation and Preservation Easement Program - Conservation and preservation easements are interests in real property and may be acquired by any governmental body or any charitable corporation or trust. Purposes include retaining or protecting the natural, scenic or open space values of real property, assuring the availability of real property for agricultural, forest, recreational or open space use, and preserving the historical, architectural, archaeological or cultural aspect of real property. Program enhancements include additional resources for staff to focus on consolidation of open spaces into larger, contiguous units within new, adjoining developments.

- Open Space Program - Delaware's Open Space Program was created in 1990 by the signing into law of the Land Protection Act and Subchapter II of the Realty Transfer Tax Act. The Act established a 9-member Open Space Council that recommends specific land acquisition projects to the Secretary of the Department, based upon advice of an interagency working group. Funding sources for the acquisitions have included conservation revenue bonds, the 21st Century Fund, legislative appropriations, and the realty transfer tax. Additional monies were received with passage of HB 192 during the 141st General Assembly.

- Delaware Land and Water Conservation Trust Fund Grants for Park Acquisition and Development and Greenways and Trails - Provides an annual source of funding to counties and municipalities for land acquisition for parks and greenway corridors and for outdoor recreation development. Selection criteria for DLWCTF grants can incorporate the goals of Livable Delaware by placing emphasis on projects within established communities, developing areas, and secondary developing areas.

- Freshwater Wetlands - Delaware has 132,000 acres of freshwater wetlands. Wetlands are one of the most productive environments and provide a host of benefits, including filtering pollutants from the water, providing protection from flooding, and supplying wildlife habitat. In particular, certain isolated freshwater wetlands in Delaware such

as Delmarva Bays, white cedar swamps, and dune swale wetlands are especially vulnerable to the impacts of growth and sprawl. A Statewide program that protects and manages the highest valued freshwater wetlands is needed.

III. Legislative, Administrative and Budgetary Implications

All of the proposed program changes outlined above and in the templates in Appendix B have some statutory, administrative or budgetary implications. Recognizing the varying degrees of applicability to growth management and limited administrative and budgetary resources available, this section will describe the requirements for implementation of the actions outlined above. In some cases, actual costs are as yet unknown and estimates are used. Further refinements of these estimates and costs will be made in the coming months.

Legislative, Administrative and Budgetary Needs				
Program	**Legislation Needed**	**Administrative Changes**	**Budget Needs**	**Timeframe**
Water Pollution Control Revolving Account/21st Century Fund	No	No	$208 million, long term, for projects on the Priority List, with an annual funding request of $15 million from WFAC	N/A
On-Site Wastewater – Small Systems	Yes, a bill will be required to alter permit fees, require enhanced nutrient removal, and to do inspections	Modification of Regulations to administer the new law and to provide for incentives	Depending on legislative direction, 6.0 FTE's are estimated at a cost of $240,000 with $60,000 in support costs	Within 6 months of statutory changes and funding
Sediment and Stormwater	No	Regulation modifications necessary	$60,000 for a two year effort	12 months following reg changes
Community and Large On-Site Wastewater Systems	No	Modification of existing Regulations	Presently undefined	Within 12 months of reg revision

Legislative, Administrative and Budgetary Needs (con't)				
Program	**Legislation Needed**	**Administrative Changes**	**Budget Needs**	**Timeframe**
Land Appl. of Wastewaters (Spray Irrigation)	No	No	N/A	Ongoing
Nat. Pollutant Discharge Elimination System (NPDES)	No	No	N/A	Ongoing
Local Air Quality Impact Analyses	Not at this time	Regulations would be required to administer any new law	If pursued, 1 FTE and associated costs – estimated at $50,000	Focus Group to be formed in early 2002
Alternative Commute	Not at this time	Regulations would be required to administer any new law	Some financial incentives will likely be required	Focus Group to be formed in early 2002
Source Water Assessment and Wellhead Protection	Legislation passed in 2001	Information and Guidance document under development	Federally funded	Full implementation expected by 2005
Water Supply Planning	No	No	3.0 FTE's at estimated cost of $170,000	Commence with resources
Brownfields	Statutory modifications to HSCA and Tax code required	Modifications to regulations and policies and procedures required	1 FTE at an estimated cost of $40,000	Within 6 months of statutory changes
Cons. and Preservation Easement Program	No	No	0.5 FTE and associated costs – estimated at $40,000	Upon Funding
Open Space Program	No	No	HB 192 provides for $9 million/yr.	Ongoing
Land and Water Conservation Trust Funds	HB 192 has already passed	Rule changes for projects in growth areas	No new money	February 2002
Freshwater Wetlands	Yes	Regulations following statutory authorization	One FTE and associated costs - estimated at $50,000	One year following statutory changes

IV. Intra- and Inter-Governmental Efforts

All of the growth management program activities, for which a "template" was submitted, have intra- and/or intergovernmental implications at the federal, state, and/or local levels. The Local Air Quality Impact Analysis program works together with the Department of Transportation and local governments to address mobile source emissions. The Brownfields/Voluntary Cleanup program involves the Delaware Economic Development Office and local governments to identify potential brownfield sites and provide incentives for their reuse.

In conducting its mission, the Department routinely looks to other government partners for funding and technical assistance as shown in the individual program activity descriptions found at Appendix A.

V. Information and e-Government

The challenge for the Department is to balance growth, economic development, and environmental protection in a realistic, sustainable manner. This approach to doing business speaks to the immediate need for:

- building our capacity to share meaningful, accurate and understandable data with the public and all stakeholders,
- a higher level of data integration, warehousing, and management,
- greater stakeholder involvement in setting goals, priorities, and measures, and
- providing managers and permit writers with information and tools needed to make
- sound environmental decisions.

DNREC is committed to building locally and nationally accessible, cohesive and coherent environmental information systems that will ensure that both the public and regulators have access to the information needed to document environmental performance, understand environmental conditions, and make sound decisions that ensure environmental protection.

As an agency, we have invested heavily in the past few years at building our data management capabilities and in building an infrastructure that will allow access to our data anytime, anywhere and by anyone. Our list of strategic projects including our internet and e-government applications includes the following:

Environmental Information System – DNREC has completed the design and begun development of an Environmental Information System (EIS) begun in 1998. DNREC's integrated environmental information system will facilitate efficient sharing, capture and dissemination (with appropriate security) of facility, permitting, ambient monitoring, facility monitoring, natural resource and enforcement data. The system will have an interactive geographic (map) interface and will allow public data to be accessible over the

Internet. The system will be linked to decision support tools for environmental analyses. EIS development has been divided into three major phases:

I. *Design Phase (Completed)* Define requirements, define standards, chose development platforms, evaluate design options, and create development plan

II. *Infrastructure Enhancement Phase (Completed)* Provide the processing power, storage capacity, and network speed (bandwidth) required to support data sharing and exchange within DNREC and to the Internet

III. *Development & Deployment Phase 10/00 - 6/02)* Incrementally create, test and deploy EIS modules including coastal zone decision tools and lab automation

During FY2001 the following milestones will be achieved:

- At least one half of information to be included in EIS available
- All major functionality of EIS developed. Online training available for EIS
- EIS accessible to public over Internet
- Ability to support Internet access to EIS enhanced through acquisition of new web server and network upgrades
- Framework GIS data migrated to RDBMS

During FY 2002 the following milestones will be achieved:

- Complete the remaining half of the information system
- Complete the Laboratory Information System
- Complete the Coastal Zone Environmental Indicator Project

Environmental Navigator - DNREC has populated a database with nearly 10,000 potential contaminant sources in the state of Delaware. This application includes both a text and a map-based interface that will aid DNREC and the public in doing place-based environmental analyses including environmental assessments, inspection prioritization, FOIA requests and land protection evaluations. This database is available to the public over the internet on a layer of Delaware map. The application is known as the Environmental Navigator. This is the forerunner of the EIS. The EIS when fully developed will replace the current database used by the Navigator.

Leaking Underground Storage Tanks - The Division of Air & Waste Management will continue to develop an application to integrate the Leaking Underground Storage Tank inventory with the Facility Registration Database in order to make them more accessible to the Department/public. Internet access for the public is currently available but work will continue to make the system more user friendly. UST Branch is overhauling its web page to make it more user friendly and to include more general information on the program. In addition, the UST Technical Guidance Manual has been modified to a web-based format with an emphasis on searchability. The manual will also be expanded to include compliance sections for both tanks and vapor recovery.

Delaware Integrated Automated Laboratory System - The Environmental Services Section is currently developing the Laboratory Information System (LIRM) to integrate

all the laboratory information resources into an automated system that will collect, store, and report analytical information, and allow clients efficient, electronic access to the critical data needed to manage programs. Final phases of this project include completing the automated data interfaces, providing customers with Internet access to the LIRM and establishing an electronic document sharing and records management and archival system.

Parks Campground Reservation Application - The Division of Parks and Recreation plans to implement an automated system to reserve campsites, cabins, and pavilions in Delaware's State Parks. The Division has floated a Request for Proposal for the System.

Upland Forest Mapping - The Division of Parks and Recreation is continuing a GIS project to identify the highest quality upland forests remaining in Delaware. The results of this protection will be used to guide land protection efforts for this rapidly diminishing resource.

CZA Environmental Indicators Project - Delaware's Coastal Zone Act (CZA) requires any new development and associated offsets within the coastal zone (about one quarter of the state) to have a net positive impact on the environment. As a first step in meeting this mandate; DNREC, working with stakeholders from industry, environmental groups, and the public at large; has identified a set of fourteen environmental indicators (each with their own set of parameters) that will be used to monitor the environmental quality of the coastal zone. Information about these indicators, where it exists at all, is collected by variety of programs within and outside of DNREC. To bring this disparate information together DNREC will establish an integrated environmental information management and assessment system. The system will be linked using thematic mapping in a Geographic Information System (GIS). This will provide a framework for development of an integrated information management system capable of conducting landscape scale analysis and tracking of the success and failures as well as to provide the capability to evaluate the efficiency of the environmental indicators as a tool for implementation of the CZA regulations. This will be integrated into the Department's EIS.

Clean Air Act Motor Vehicle Enhanced Inspection and Maintenance Program – The new inspection equipment and programming provided by Environmental System Products (ESP) will capture important data and record it on the mainframe for access by the registration renewal and vehicle titling programs. Those systems will verify the results and permit vehicles passing the inspection tests to proceed through the DMV system without change. Failing vehicles will require repair and re-testing until they pass or receive a vehicle waiver from DMV management. The inspection results database and supporting databases will be linked to fulfill reporting requirements of DMV management, DNREC and US EPA such as management reports and online inquiries to monitor the inspection system performance, database contents and results.

Kent County COMPAS Resource Protection Module - Kent County COMPAS is a GIS data delivery and decision support tool developed by DNREC's Coastal Management Program for Kent County, one of Delaware's three counties. This tool brings together selected, disparate environmental data into a single microcomputer environment for data comparisons, display, and analysis. COMPAS has two

components, Pre-Application and Growth Management. The Pre-Application component is based on the Kent County Department of Planning's need to review a variety of environmental information before making zoning decisions. COMPAS supplies the information through a highly customized version of the GIS program ArcView. It is designed to supply the applicant and the County Planner with basic information of a site in the form of tables and maps. The Growth Management component brings together a variety of state and county based information into a single "view" within the COMPAS ArcView project where there are many tools available to view, manipulate, and analyze the data for growth management such as creating buffers around areas of special concern. COMPAS went into regular production in the Kent County Planning Department in January 1999. Use of COMPAS allows County Planners to now do what would take hours or days in only 15 minutes.

Technology Enabled Permitting (TEP) - The technology-based redesign of the Well and Septic Permitting Processes began in 1995 with a pilot project that is now a successful on-line transaction processing system. Data entered for permit applications is accessible to both in-house and field technicians. The next phases of the project will add imaging of permits to the system and spatial data integration and display. Long-term goals include Internet access to TEP (read only) to licensed wastewater professionals, land use planners, and realtors to promote improved wastewater management and land use planning. TEP projects will expand permitting capabilities to other water programs such as Wetlands and Subaqueous Lands.

Waste Transporters Permit System - DNREC has developed a waste transporters permit tracking system in Microsoft Access for both solid and hazardous waste transporters. This application brings both solid waste transporter permits and hazardous waste transporter permits (each managed by different groups within DNREC) into a single integrated system linked by permit holder. Automation features in this application such as automatically generating permit renewal notices has resulted in productivity improvements of over 20% for DNREC staff and better service for permittees.

Hazardous Chemical Inventory - Under federal and state Emergency Planning and Community Right-to-Know Acts (ECPRA) facilities are required to submit Hazardous Chemical Inventory ("Tier II") reports by March 1 each year. Due to differences between federal and state requirements, Delaware facilities are required to submit on Delaware specific "Tier II" forms. In 1995 Delaware initiated a pilot project to allow facilities to compile reports on computer and submit via diskette. Using a contractor, we modified the federal Tier II Win software to incorporate state specific requirements and the results of industry comments. After several years of limited distribution for testing, the Delaware Tier II Win software was made available for all facilities in 1998. Out of approximately 1230 facilities which reported in 1998, approximately 520 (42%) reported on diskette. From preliminary data available in 1999 use of the software is increasing. Once received, information from the diskettes is transferred into our state CAMEO database for distribution (see Statewide CAMEO System below).

Toxics Release Inventory - Under federal and state Emergency Planning and Community Right-to-Know Acts (ECPRA) facilities are required to submit Toxics Release Inventory (TRI) reports by July 1 of each year. Reports are submitted on the

federal Form R (or short version Form A) supplied to facilities each Spring with the EPA reporting package. An EPA-developed software application, called the Automated Form R, is distributed with the package to allow electronic submissions on diskette. Delaware has been accepting electronic TRI submissions since reports received in 1996. In 1998 70 facilities submitted 258 forms. Of these 45 facilities (64%) reported on diskette, representing 82% of reports. Information from the diskettes is transferred into our state TRI database. The data is analyzed and a Delaware TRI report is published annually.

Statewide CAMEO System - Delaware has established a statewide information system for managing and distributing EPCRA information. The system revolves around the federal Computer-Aided Management of Emergency Operations (CAMEO) software. Within the Delaware CAMEO system various organizations are assigned responsibilities based upon their particular areas of expertise. The EPCRA Reporting Program in DNREC serves as system administrator and is responsible for Hazardous Chemical Inventory, Toxics Release Inventory, and Emergency Release Notification data. The Local Emergency Planning Committees, or LEPCs (each for their specific District), are responsible for special population information, plotting facilities and special populations on the system maps, screenings and scenarios, transportation route data, additional emergency contacts, and response resources. The 911 Fire Dispatch Centers (each for their specific county) are responsible for verification of address information and identification of fire districts and cross streets for facilities. Since CAMEO is not currently designed for use in a multi-user network arrangement, each organization maintains an individual stand-alone copy. Guidelines for entering and exchanging data have been established. Federal law requires facilities to send Hazardous Chemical Inventory reports to their State Emergency Response Commission, LEPC, and local fire department. With this streamlined centralized system Delaware facilities are only required to send submittals to the EPCRA Reporting Program. The information is then distributed to emergency planners and responders through the CAMEO system.

Delaware EPCRA Web Pages – DNREC has developed a Web site for Community Right-to-Know in Delaware that covers the complete array of Community Right-to-Know information. Content includes pages for the Delaware State Emergency Response Commission (SERC) and Local Emergency Planning Committees (LEPCs), pages for public information and compliance assistance, and kids' page. Included in these pages are on-line searchable databases of EPCRA information reported by facilities including TRI and Tier II data. The public is able to search for and view basic information from facilities in their communities. An on-line form for requesting additional information also is included.

Site Investigation and Restoration Web Page – The electronic site offers the public information about DNREC, Hazardous Substance Cleanup Act/ Voluntary Cleanup/Brownfields Programs, and provides access to relevant laws, regulations and remedial standards. The web site also allows for comments and suggestions and provides for public notices as well as upcoming events. The web page has two additional substantive functions. The first is the introduction of a GIS mapping system and contaminated site locator. This integration allows the user to type in an address and be provided information about contaminated sites with various mile radii. The locator identifies the site and provides for an electronic link to data on the site including type of

contamination, stage of remedial activity and a brief history. The second function allows the user to access a known contaminated site directly and view the same type of information. Both of these services are being enhanced by a new imaging system to quickly and efficiently scan site material. The scanned images are stored in database. The public are able to view the complete site files over the Internet without having to make a request under the Freedom of Information Act to review files. In FY 00 this page was upgraded so that users can access various GIS layers such as wetlands, land use, etc., in addition SIRB sites. Future projects will be centered around providing a means for electronic submission of Remedial Investigation reports and Feasibility Studies.

Division of Water Resources Interactive Website - Projects include full informational capabilities through the division website with the addition of interactive pages for submitting inquiries directly to the division Ombudsman and for Freedom of Information Act requests. Long-term projects include the capability of providing Internet permitting and public access to map on demand services. Through this internet service, the division would provide the public with the capability to zoom in on an area within the State to see maps showing designated uses, applicable water quality standards, monitoring locations, concentrations of various water quality parameters, levels of designated use support, segments on the 303(d) List, pollution sources, soils and wetlands.

EPA One Stop Reporting Program In FY 2002 DNREC will use to use One Stop grant funds to expand its data integration efforts now being developed. This grant is awarded annually to states whose current accomplishments and planned activities demonstrate their national leadership in re-engineering how they collect, manage and provide access to environmental information. This EPA program will assist DNREC in building an integrated environmental information system that links the major databases in the Department and facilitate electronic reporting and public access to facility performance data via the Internet.

Delaware State Parks Web Site - initiatives completed in FY2000 include:

- Redesign and reorganize the current site to enhance the consumer experience, upgrade the Parks internet presence, ease visitor navigation, and facilitate updates
- Add multimedia content (streaming audio, video, etc.) that will introduce visitors to Parks personnel and programs
- Keep the site current with weekly updates; update education program content as new content becomes available in January, April, and September
- Add smaller maps for all parks suitable for online viewing; rework current maps for faster downloading and printing; add maps for parks that do not currently have them
- Add online forms to facilitate consumer information requests
- Add overall search capabilities
- Add searchable educational program database
- Complete addition of environmental education group programs; add overnight programs
- Add state park hunting information and maps
- Add online registration for hunting in state parks

- Add viewable and printable online copies of all current state park brochures
- Add group pass information
- Add Trail Challenge program information
- Add viewable and printable bid information from Planning, Preservation and Development section
- Research e-commerce solutions
- Research addition of interactive educational content
- Research online campground reservations

Initiatives planned for FY 2001 and beyond:

- Add interactive education component to web site
- Add online purchase of annual passes
- Add e-commerce component, with opening of online store to sell Delaware State Park merchandise
- Add online program registration and payment
- Add online campground reservations (dependent on progress of Operations and Maintenance campground reservation system)

Sediment and Storm Water Web Site - currently offers the following services through their home page on the Department's Web site: Viewing and downloading of program regulations, policies, application forms, background information, etc.; on-line purchasing of the E&S Handbook and Conservation Design Manual; E-mail links to program staff. Future plans include: A means for processing the Notice of Intent (NOI) forms required under the National Pollutant Discharge Elimination System, which would also be accessible by our delegated agencies. (Hopefully available in FY2001.); statewide database of active construction sites that would be accessible by the delegated agencies. (Delivery date uncertain at this time.); on-line registration in our training programs. (Delivery date uncertain at this time.); capability to download commonly used public domain hydrologic and hydraulic software used in the preparation of Sediment & Stormwater plans. (Delivery date uncertain at this time.)

APPENDIX A

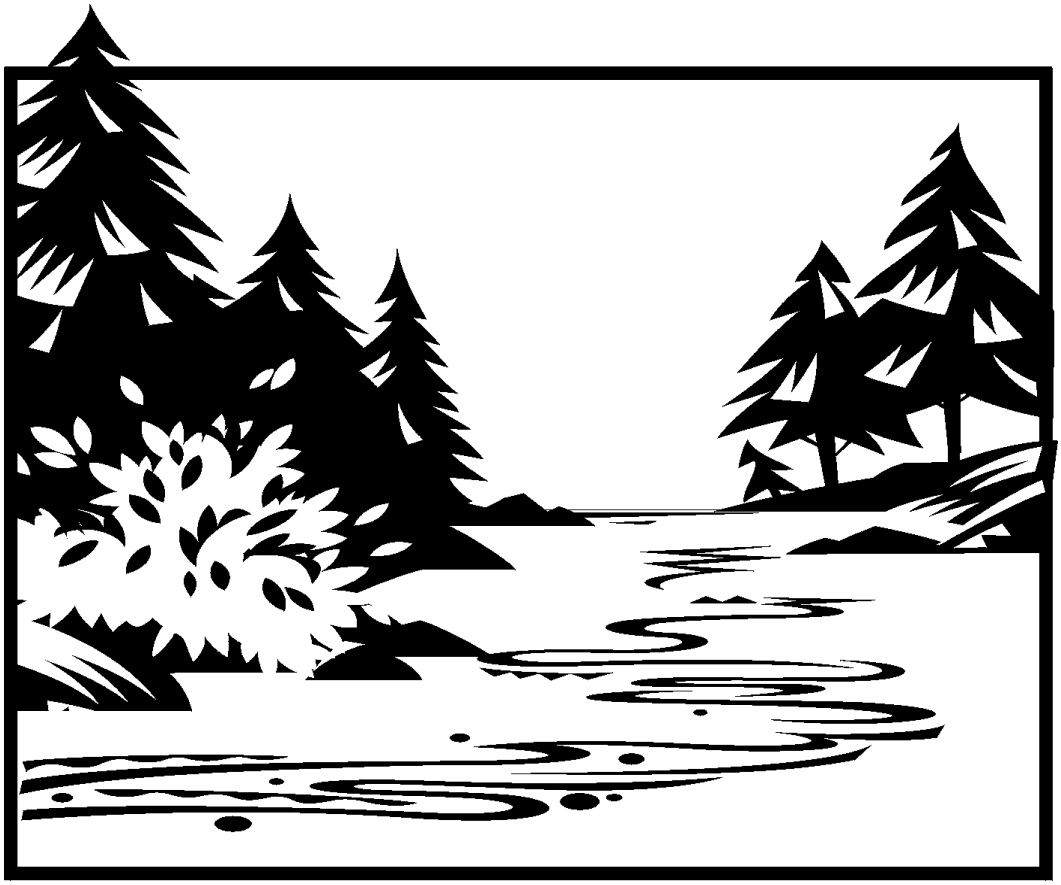
DNREC Draft Strategic Plan

For FY 2003-2005

Department of Natural Resources
And Environmental Control

Strategic Plan

Fiscal Years 2003 - 2005



October 31, 2001

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Department of Natural Resources and Environmental Control
Strategic Plan
Fiscal Years 2003 – 2005
Executive Summary

Goals

- **Promote Health and Safety**
- **Conserve Plant and Animal Resources**
- **Promote and Provide Recreational Opportunities**
- **Broaden the Commitment to Environmental Protection and Resource Conservation**

Goal: Promote Health and Safety

Strategic Initiatives:

1) Protecting and Enhancing Water Quality and Assuring Adequate Water Supply

- Develop Total Maximum Daily Loads for impaired waterways
- Assist in development and implementation of Nutrient Management Program
- Provide equitable and adequate allocation of water supplies
- Implement source water protection
- Improve stormwater management
- Improving drainage systems for water quality improvements and habitat
- Provide equitable financial assistance to county and municipal governments and landowners to manage wastewater and to promote Livable Delaware growth management goals
- Protect and monitor recreational waters

2) Improving Air Quality

- Attain the ozone health standard
- Promote air quality planning into the land use approval process to promote Livable Delaware growth management goals.
- Minimize exceedences of air quality standards and improve visibility
- Assure facility compliance with regulations
- Controlling toxic air emissions

3) Improving Waste Management

- Promote increased recycling of municipal and industrial solid waste
- Clean up highest priority hazardous waste sites and place sites back into productive use focusing on development of brownfields in urban and developing areas to promote Livable Delaware growth management goals.
- Assure compliance of hazardous and solid waste facilities

- Assure compliance of underground storage tanks
- Assure compliance of above ground storage tanks
- Assess environmental impacts from salvage yards
- Reduce generation of persistent bioaccumulative toxics.
- Eliminate the threat of methane gas generation, subsidence and property damage from buried debris in residential areas

4) Prevention of Mosquito-borne Diseases

- Survey mosquito-borne disease viruses that affect humans or domestic animals
- Control mosquito species that are vectors of disease
- Control mosquito populations below nuisance thresholds to prevent disease outbreaks

5) Assuring Safe Construction, Operation and Maintenance of Dams

- Develop a comprehensive dam safety program
- Develop and implement dam safety regulations and dam inspection standards
- Provide emergency action plans
- Provide assistance to private dam owners

6) Enforcement, Response, Compliance and Outreach

- Provide timely response to citizen complaints and environmental emergency and non-emergency incidents

7) IMPROVING COASTAL PROPERTY PROTECTION

- Reduce impacts to coastal infrastructure from storms

Goal: Conserve Plant and Animal Resources

Strategic Initiatives

1) Sustaining Tidal Fisheries Management

- Sustain management of marine fisheries through data collection, analysis, habitat protection and a stable funding source

2) Managing lands for environmental improvements

- Improve quality of State Park lands and State Wildlife Areas through habitat analysis, management and appropriate recreational uses and infrastructure development
- Enhance wildlife management efforts to stabilize or increase popualtions
- Enhance the natural areas program

3) FOSTERING PARTNERSHIPS WITH PRIVATE LANDOWNERS

- Achieve environmental improvements on privately-owned lands to benefit biodiversity and gain water quality enhancements
- Use partnerships to alleviate development pressure on valuable lands
- Help landowners mitigate damage caused by wildlife such as deer, snowgeese, resident Canada geese and beaver

4) Protecting and Enhancing Wetlands

- Improve the function and value of coastal and freshwater wetlands
- Safeguard our most valuable freshwater wetlands from growth and development

5) Protecting, restoring and enhancing fisheries and wildlife habitat

- Maintain and improve management of fish and wildlife populations through planning, assessment and land acquisition

6) Enhancing the management of non-game wildlife and endangered species

- Improvement management of threatened and endangered species through education, landowner contacts and planning

Goal: Broaden the commitment to environmental protection and resource conservation

Strategic Initiatives

1) Implementing Delaware's Coastal Zone Act

- Insure no heavy industry locates in the Coastal Zone and that existing facilities new manufacturing facilities obtain the appropriate permits

2) ENHANCING DATA INTEGRATION AND INFORMATION MANAGEMENT

- Develop an integrated environmental information system containing facility, permitting, ambient monitoring, natural resource and enforcement data and make it available to the public via the Internet
- Develop public notification system on environmental releases
- Implement e-government initiatives

3) Improving land use coordination

- Coordinate land use activities with other agencies and county and municipal governments to preserve open space and minimize impacts to air and water quality and habitat
- Promote the goals of Livable Delaware and the Strategies for State Policy and Spending

4) Enhancing public involvement

- Enhance public access to information related to environmental enforcement actions and unpermitted releases to the environment
- Increase the public's understanding of DNREC, its activities and environmental issues
- Establish baseline data to increase communications efforts to disadvantaged socio-economic populations

5) Improving cultural programs

- Research cultural and historic resources in State Parks and establish historical interpretive programming
- Establish history and research programs
- Expand and enhance interpretive and exhibit capabilities in the State Park system
- Protect historic and cultural resources on State Wildlife Areas

6) Environmental Assessment/priority issues and implementation

- By 2003 complete a multi-disciplinary environmental assessment for the entire state through Whole Basin Management Teams.

7) ENERGY AND ENVIRONMENT

- Minimize environmental impacts from energy production and use

Goal: Promote and Provide Recreational Opportunities

Strategic Initiatives

1) Responding to growth of the State Parks system

- Implement entrepreneurial initiatives and increase revenues to support operations and programming
- Provide safe and enjoyable recreational opportunities and visitor services
- Provide additional people resources and equipment for effective operation

2) Beach maintenance and renourishment

- Achieve no net loss of publicly-owned recreational and protective beach

3) Enhancing park infrastructure, maintenance and restoration

- Improve curatorial resources and continue restoration efforts of historical buildings in State Parks
- Work with local governments at enhancing parks, greenways and trails

4) Fort Delaware/Fort DuPont improvements

- Expand operations, staffing and interpretation in order to provide seven day/week service

5) Providing safe boating and wildlife-related recreational opportunities

- Maintain boating access facilities on Delaware’s ponds, rivers, bays and State Wildlife Areas

OUR VISION:

The Department envisions a Delaware that offers a healthy environment where people include a commitment to the protection, enhancement and enjoyment of the environment in their daily lives; where Delawareans' stewardship of natural resources ensures the sustainability of these resources for the appreciation and enjoyment of future generations; and where people recognize that a healthy environment and a strong economy support one another.

OUR MISSION:

The mission of the Department of Natural Resources and Environmental Control is to ensure the wise management, conservation, and enhancement of the state's natural resources, protect public health and the environment, provide quality outdoor recreation, improve the quality of life, and educate the public on historic, cultural, and natural resource use, requirements, and issues.

OUR CORE VALUES:

In pursuing its mission, the Department of Natural Resources and Environmental Control will treat its employees and the public with courtesy, respect and consideration, be fair and honest in its dealings, and be mindful of the special qualities that make Delaware a unique place to live and work.

Our Vision, our Mission and literally all of our programs are designed to promote Governor Minner's vision for a Livable Delaware. At the heart of Livable Delaware is what many would call "quality of life" – or enjoying to the fullest what Delaware has to offer in the way of our natural environment, and our cultural, educational. and economic opportunities – for all citizens. We believe that a healthy and vibrant environment is a foundation for all components of our quality of life and will view implementation of all our programs with an eye toward enhancing a Livable Delaware. Furthermore, we recognize that many of our programs can be implemented in a fashion to promote smart growth and curtail undesirable sprawl into our valuable open spaces and unspoiled natural resources habitat.

The people who work at the Department are dedicated to improving and preserving the environment. Highly skilled and culturally diverse, they work with their partners to protect human health, ecosystems, and the beauty of the environment using the best available science. They value and promote innovative and effective solutions to environmental problems. They strive to protect and sustain the productivity of the natural resources on which all life and human activity depend.

As employees of DNREC we pledge to keep these tenets in a constant state of use, challenge and renewal for the good of the people we serve.

1. **SERVICE** - *we are committed and empowered to provide the citizens of Delaware with the highest level of service possible.*

2. **PROFESSIONALISM** - *Employees at all levels will carry out their responsibilities in a professional manner, and with respect for their customers and coworkers.*

3. **RESPONSIVENESS** - *Services to Delaware citizens will be provided in a timely fashion.*

4. **SENSITIVITY** - *we will strive to understand and consider all points of view when making decisions which affect the public.*

5. **COOPERATION** - *we will strive to increase cooperation at all levels; with customers, within and among divisions, with local, county and federal governments, and other state agencies to achieve common objectives, with mutual accountability for achievement of those objectives.*

6. **EFFICIENCY** - *we will operate in a manner that provides reasonable and cost-efficient solutions to environmental challenges.*

7. **BELIEF IN THE POTENTIAL OF PEOPLE** - *DNREC will recruit for a diverse workforce and will tap and expand the capabilities of all employees by leveraging their talents, developing their skills, and setting high expectations.*

8. **CONTINUOUS PERFORMANCE IMPROVEMENT** - *we will continuously improve on the measures of performance which are important to the people we serve by continually changing our processes, practices and systems, and by improving our skills.*

9. **INFORMATION AS A STRATEGIC ASSET** - *DNREC employees will recognize and harness the tremendous power of information to transform the organization, empower the public, and educate.*

10. **PASSION FOR SUCCESS** - *DNREC employees will be relentless in the addressing the needs of the people and the environment of Delaware.*

11. **DIVERSITY –** *DNREC will create a work environment that fosters mutual respect and understanding among all employees and values diversity.*

OUR MANAGEMENT PRINCIPLES:

DNREC will utilize the following principles in its organizational and environmental management practices.

1. Management of Delaware's environment will be conducted through a **holistic approach** that takes advantage of comprehensive, ecosystem-based management.

2. **Organizational performance** will be based on clear, legitimate measures to ensure accountability and continuous improvement.

3. **Innovation** will be encouraged and utilized in managing our organization and Delaware's environment.

4. Management approaches will nurture an **environmental ethic** among Delaware citizens.

5. DNREC will create and develop **diverse partnerships** that integrate economic development, social policy and environmental protection and rely on clear, effective communication

6. The development, implementation and enforcement of all laws, regulations and policies will result in the **equitable treatment** of people of all races, incomes and cultures.

7. **Information** will be made available Delaware's citizens to assist them in making effective decisions.

8. Utilize DNREC's regulatory and financial assistance programs, where applicable, to support the goals of Livable Delaware.

GOAL: PROMOTE HEALTH AND SAFETY

The health of people, wildlife, and plants are impacted by air quality (ozone and particulates can damage even healthy lungs); water quality (bacteria can make swimmers sick, lack of dissolved oxygen can kill fish); accidents and spills involving petroleum and hazardous substances; mosquitoes and other pests (mosquitoes transmit encephalitis, ticks transmit Lyme disease); open burning (burning of trash and leaves emits cancer causing chemicals); contaminated soils (can result in contamination of drinking water supplies and adjacent surface water bodies) and contaminated fish and shellfish. The Department promotes public safety and helps to ensure a healthy environment and a Livable Delaware for all Delawareans through education, outreach, planning, and regulatory programs.

Protecting and Enhancing Water Quality and Assuring Adequate Water Supply

I. Total Maximum Daily Loads (TMDLs)/Water Quality Standards

Objective:

Decrease human contact and health implications due to water borne pathogens and water based vectors by decreasing the combined sewer overflow occurrences in the Christina Basin.

Activity:

- By July 1, 2003, the City of Wilmington will have begun construction to eliminate three of its highest priority combined sewer overflows.

Objective:
Increase waterways designated as fishable and swimmable by 5 percent from the 2000 305(b) report by 2003.

Activities:

- Coordinate with appropriate local jurisdictions to assure land use decision-making supports meeting Total Maximum Daily Loads (TMDLs) and is consistent with the goals of Livable Delaware.
- Develop and implement outreach/educational programs to raise citizen awareness about TMDLs and involve the public in the process.
- Develop TMDLs according to schedule including the Delaware River by December 2002; the non-tidal portions of Indian River and Bay, Rehoboth Bay and Little Assawoman Bay by December 2003 and the Christina River and Shellpot Creek by December 2004.
- Develop pollution control strategies to meet TMDLs, consistent with Livable Delaware goals, for appropriate waterways wihtin one year of TMDL promulgation.
- For wastewater projects that enhance water quality or contribute to achieving TMDLs, provide up to $25 million per year in low interest loans and up to $15 million per year in grants where needed to make such projects affordable.
- Promote Livable Delaware by providing increased emphasis on funding wastewater projects within growth areas as defined by the State Strategies provide for incentives and disincentives in the on-site wastewater program to promote the goals of Livable Delaware.

II. Nutrient Management

Objective:

Assist the Nutrient Management Commission in formulating a systematic and economically viable Nutrient Management Program that maintains profitability and improves water quality.

Activities:

- Manage and regulate the generation and application of nutrients in order to meet load reduction targets established by approved Total Maximum Daily Loads and meet or exceed surface water quality standards for nutrients by 2007;
    - Establish a Nutrient Management Planning program
    - Increase the number of acres of fall cover crop to reduce nutrient loadings from 6,200 acres in 1998 to 15,000 acres in 2002.
    - Double the number of nutrient management plans developed annually by conservation district planners from 18 per year to 36 per year.
    - Provide technical and financial assistance to insure the availability of three economically viable alternative uses for 100,000 tons of poultry litter per year.
    - Develop and implement nutrient management plans on 100 percent of all dairy operations in Delaware.

III. Source Water Protection/Water Supply

Objective:

Assure that all ground waters and surface waters used for drinking water are protected for the long-term goal of meeting Drinking Water Standards.

Activities:

- Complete source water susceptibility assessments for all public water supply systems by 2003 with 30 percent completed each year beginning 2000.
- Encourage local communities to implement source water protection measures with a goal of 10 systems per year, from 2001, through 2008.
- Coordinate with County and municipal governments to implement requirements of the source water protection legislation.

Objective:

Provide for the equitable and adequate allocation of surface and ground water supplies through the analysis and issuance of allocation permits to water users.

Activities:

- Develop and implement recommendations of the Governor's Water Supply Task Force
- Review and approve 30 allocation permits annually for ecological and public health protection
- As part of the development of the Christina River basin pollution control strategy, establish minimum flow requirements in the Christina River, White Clay, Red Clay and Brandywine Creek to protect aquatic communities during drought conditions.

Objective:
Assure that all drinking water wells are constructed and sited such that public exposure to toxic contaminants is avoided.

Activity:

- Review and approve 90 percent of water well permits located near contaminated sites for proper placement and construction within two days of receipt of permit application.

Objective:
Reduce the percentage of all active Leaking Underground Storage Tank (LUST) sites impacting drinking water at any given time to less than 15 percent by 2005

Activities:

- Clean up releases from underground storage tanks that impact drinking water Of 140 sites with know impacts to groundwater, of those it is estimated that nine cleanups will be completed in FY 02, seven in FY 03 and five each year in FY 04 and FY 05. These projections are reduced from what had been projected because of the impacts of MTBE.
- Implement the orphan underground storage tank program to utilize the $500,000 from Hazardous Substances Cleanup Act authorized in the FY 1999 legislation in removal, and clean up of sites with orphaned Underground Storage Tanks (UST) or where the UST owner has proven inability to pay. There are 35 potential sites to be addressed under this program. It is projected that this number will increase over time. The UST program projects that five sites will be addressed each fiscal year so the initial 35 sites are targeted for completion by the end of FY 08.

IV. Improving Stormwater Management

Objective:
Manage storm water runoff, as required by the Sediment and Storm Water Management regulations, from 100 percent of new development at the predevelopment rate for the 2-year, 10-year, and (100-year in NCCo.)/24-hour rainfall event.

Activities:

- Implement National Pollutant Discharge Elimination System Phase II requirements for storm water management.
- Provide sediment and storm water management field inspection on federal and state funded, non-DELDOT construction activities.
- Provide training programs for contractors, developers, animal producers, and agency personnel.
- Develop and implement a non-point source pollution control tracking and monitoring program.

V. Drainage

Objective:

Protect 4000 additional acres of land in FY2003 through the construction of drainage, flood control, and water management systems.

Activities:

- Update and expand best management practices (BMPs) for tax ditch construction, operation and maintenance. Tax ditch BMPs expanded to include riparian buffer development and overflow into wooded wetland floodplains.
- Conduct educational efforts designed to increase awareness in the agricultural community about the importance of wetland and wildlife habitat, BMPs for drainage systems. Pre- and post-construction vegetative and water quality monitoring to determine and minimize potential impacts of tax ditch construction.
- Incorporation of stream restoration techniques where possible and appropriate.

Objective:

Reduce wetland impacts by 25% during planning and construction of new tax/public ditch projects and by 10% for maintenance of existing tax/public ditch projects annually through the year 2005 over historical impacts (Previous design and construction did not include BMPs resulting in wholesale disturbance of wetlands).

Activity:

- Update and expand best management practices for tax ditch construction, operation and maintenance.

VI. Protecting Recreational Waters

Objective:

Monitor the State's guarded beaches, establish enhanced public notification procedures in the event of unacceptable bacteriological quality, and adopt indicator bacteria criteria to protect swimmers pursuant to the Beach Environmental Assessment and Coastal Health (BEACH) Act and federal regulations by April 2004.

Activity:

- Conduct regular water quality monitoring at Delaware's ocean and bay beaches to assure waters are safe for recreational users and communicate those findings to the public.

Improving Air Quality

Objective:
Attain 1-hour ozone standard by 2005 in New Castle and Kent Counties and attain the recently reinstated one-hour ozone standard in Sussex County.

Activities:
- Continue to implement audit procedures for the Inspection and Maintenance Program Two Speed Idle Test and evaluate test data.
- Develop and implement audit procedures for the Volume mass Emissions Simulation System (MASS) lane located at the Wilmington Motor Vehicle Inspection Lanes with the goal of testing 200-300 vehicles per year.
- Adopt and implement additional regional and local control measures to remove one-hour ozone standard state implementation plan (SIP) emissions shortfalls.
- Implement the nitrogen oxide (SIP) call to reduce nitrogen oxide emissions to 32 tons/day that contribute to ozone formation and transport.
- Work with other public and private entities to develop or implement transportation and voluntary control programs such as Ozone Action Day.
- Provide for expedited permit reviews in areas designated for growth by the Strategies for State Policies and Spending
- Adopt and implement requirements for Local Air Impact Analyses for new developments

Objective:
Minimize exceedences of air quality standards for particulate matter (pm), sulfur dioxide, carbon monoxide and nitrogen dioxide and improve visibility.

Activities:
- Continue the operation and maintenance of the particulate matter 2.5 monitoring network.
- Operate the stack-testing program (1,000 – 1,500 tests per year) in support of the enhanced permitting program.
- Implement the nitrogen oxide (SIP) call to reduce nitrogen oxide emissions to 32 tons/day that contribute to ozone formation and transport.
- Participate with regional organizations to assess sources of visibility impairment and initiate control strategy development.

Objective:
Ensure that 75 percent of facilities inspected annually are compliant with air quality regulations at time of inspection.

Activities:
- Maintain Title V operating permit program. 128 permits issued to date. Issue the remaining 14 permits by 2003 and renew 14 permits per year

- By 2005, complete the 2002 periodic Emissions Inventory for VOC, Nox and CO for the State of Delaware.
- Inspect all major 87 major facilities annually in accordance with the compliance with the compliance monitoring strategy negotiated with EPA.
- Provide assistance to small sources via the Small Business Ombudsman

Objective:
Significantly reduce public health risks from toxic air pollutants through development and full implementation of the federal Integrated Urban Air Toxics Strategy following the time-table developed by EPA in the next eight years.

Activities:
- Continue expanded air toxics monitoring at the Wilmington air monitoring site. Monitoring will be conducted in accordance with the Integrated Urban Air Toxics Monitoring Strategy and EPA Region III guidance.
- Reduce Reasonably Available Control technology (RACT) levels of VOC and HAP emissions from lightering operations in the Delaware Bay by 95% by 2020 contingent on DRBC oversight committee's recommendations.
- Set level of minimally acceptable controls for newly constructed, non-major stationary sources through rulemaking beginning in 2003.
- Develop required residual risk standards under Section 112(f) of the Clean Air Act by adopting the measures developed by EPA within 18 months of promulgation.
- Continue to develop and implement pertinent air toxic regulations including the Maximum Achievable Control Technology Standards. Adopt 1 Aluminum Smelters and Petroleum refinery standards in 2002.

Improving Waste Management

Objective:
Promote increased recycling of industrial and municipal solid waste and achieve a recycling rate of 30 percent by 2003.

Activities:
- Implement Executive Order 82 and the December 2001 recommendations of the Recycling Public Advisory Council
- Develop beneficial use determination guidelines for solid waste and industrial wastes by June 2002.

Objective:
Clean up seven contaminated properties each year that are on the HSCA inventory list that pose an unacceptable risk to human health and the environment. The HSCA inventory list is a working list of sites in which new sites are added every year. The responsible parties associated with these sites are either unwilling to conduct the remediation on a voluntary basis, or cannot be found, and the State must take the lead with regard to managing remedial activities.

Activities:

- Oversee remedial investigation, feasibility study, remedial design and remedial action at a minimum of seven HSCA sites.
- Provide oversight for the investigation, study, design and cleanup of VCP sites consistent with HSCA.
- Promote field screening procedures to reduce the number of analytical samples sent to the laboratory for full analysis.
- Identify a minimum of seven sites and prioritize them using the Delaware Hazard Ranking Model.

Objective:
Ensure 100 percent of hazardous and solid waste facilities return to compliance within 180 days after inspection.

Activities:

- Specific activities include completion of inspections, development of timely enforcement actions and continued emphasis on compliance assistance where applicable.

Objective:
Clean up and make available for reuse a minimum of thirty potentially contaminated properties per year through the Voluntary Clean-Up Program during FY 2003-2005. The list of Voluntary Cleanup Sites is a working list with new sites being added each year. The number of sites on the list is dependent on the responsible parties willingness to perform the work, the development schedule defined for specific properties, local land use decisions, the amount of contaminated properties being transacted, and various economic factors including incentives offered by the State.

Activities:

- Review a minimum of five applications from site owners for acceptance into the Voluntary Cleanup Program (VCP).
- Assist a minimum of 10 site owners in obtaining grants, loans and tax credits at brownfield sites so that such sites can be put to productive use.
- Promote tax incentives and marketing efforts for brownfields within designated growth areas as found in State required Comprehensive Plans and defined growth areas.
- Provide oversight for the investigation, design, and clean up of a minimum of thirty contaminated properties involved in the Voluntary Cleanup Program consistent with HSCA regulations and guidance**.**

Objective:
Achieve an 80 percent compliance rate for operating Underground Storage Tanks (USTs) by 2005.

Activities:

- Through enforcement, reach 100 percent compliance with the 1998 deadline requirements for all regulated petroleum underground storage tanks by 2005.
- Identify unregistered USTs by data comparison and integration with Motor Fuel Tax Administration and through public outreach efforts.
- Conduct Underground Storage Tank facility, tank removal or abandonment and new installation compliance inspections. A total of 100 inspections will be conducted each year. The emphasis will be on new tank installations and compliance inspections to prevent releases and then removal/abandonment inspections.

Objective:

Require improved management of above ground storage tanks and the clean up of any releases from above ground storage tank systems.

Activities:

- Develop a state above ground storage tank program including fee schedule through legislation

Objective:

Minimize impacts of salvage yards on water quality and public health by 2005.

Activity:

- The Solid and Hazardous Waste Branch will continue this effort working closely with the Division of Water Resources on best management practices. Specifically over the next 18 months - salvage yards will be identified and initial educational efforts will be completed. Sites will be ranked and initial high priority sites will be investigated.

Objective:

Reduce generation of Persistent Bioaccumulative Toxics (PBT) compounds by 50 percent over 1991 generation rates by 2005.

Activities:

- Target top 10 PBT generators in the State each year with educational information on the benefits of reducing PBT compounds.
- Conduct Waste Minimization Audits at five of the top 10 PBT generators in 2002/03.

Objective:

Eliminate the threat of methane gas generation, subsidence and property damage from buried debris in residential areas.

Activity:

- Coordinate and oversee cleanup of approximately 70 debris disposal sites in conjunction with New Castle County and the New Castle Conservation District by 2005.

Objective:
Protect lives and the health of citizens of the state living and working in the vicinity of 110 stationary sources having substances on-site that if released, will cause catastrophic health consequences caused by short-term exposures. The facilities must implement a risk management program to minimize the probability of catastrophic events.

Activity:
- Inspect 30 facilities annually. This includes compliance inspections to ensure that the facility has a properly functioning risk management program and investigation of incidents to ensure that the facility has taken appropriate actions to prevent reoccurrence.

Prevention of Mosquito-borne Diseases

Objective:
Prevent or control transmission of mosquito-borne diseases such as West Nile Encephalitis or Eastern Equine Encephalitis to humans or domestic animals. Sussex or control will be measured in the context of regional findings.

Activities:
- Conduct surveillance and monitoring activities, including operating an appropriate number of monitoring stations, to determine occurrence and prevalence of mosquito-borne disease viruses that affect humans or domestic animals.
- Take actions to control larval or adult stages of those mosquito species that serve as disease vectors including treating 300 acres of saltmarsh breeding habitat per year using Open Marsh Water Management.
- Keep pestiferous mosquito populations at tolerable levels for quality of life purposes, maintained below nuisance thresholds, which in turn is the most important public health action to take in preventing transmission of mosquito-born diseases.

Assuring Safe Construction, Operation and Maintenance of Dams

Objective:
Assure the protection of the human life, property and the environment through the development and implementation of a comprehensive dam safety program

Activities:
- Develop and implement dam safety regulations and dam inspection standards
- Provide emergency action plans
- Provide assistance to private dam owners

Enforcement, response, compliance and outreach

Objective:
Provide timely and appropriate response on a 24-hour basis to citizen complaints and environmental emergencies and enforce compliance for other Health and Safety Objectives.

Activity:
- Improve enforcement and emergency response capabilities through technology initiatives, equipment, training and staff by implementing the requirements of the Career Advancement Program on an annual basis.

Improving Coastal Property Protection

Objective:
Reduce impacts from coastal storms on buildings and infrastructure built adjacent to the Atlantic Ocean and Delaware Bay.

Activities:
- Continue regulation of human activities that may impact the coastal dune
- Update the existing regulations governing beach protection and the use of beaches and remap the building setback line.
- Continue renourishment of eroded developed public beaches with sand including the following projects: Lewes – 2002, Slaughter Beach – 2002, Broadkill Beach – 2002-03, Rehoboth Beach, Dewey Beach, Bethany Beach, South Bethany – 2003, Fenwick Island 2004-05.
- Continue partnership with the Federal government to develop and construct comprehensive shore protection projects along the urbanized public beaches.

GOAL: Conserve Plant and Animal Resources

This goal is to conserve and enhance plant and animal communities, through protection and management of species populations and their habitats. This effort involves maintenance of biodiversity, harvest allocation of species populations, protection of ecological functions and processes, and performing educational outreach. Achieving this goal necessitates good quality air, water and soils. Sustaining this goal requires coordination of Department activities and will result in a more Livable Delaware.

Sustaining Tidal Fisheries Management

Objective:

Manage marine fisheries by complying with the requirements of 21 interstate fishery management plans adopted by the Atlantic States Marine Fisheries Commission, the Mid Atlantic Fishery Management Council and the National Marine Fisheries Service.

Activities:

- Monitor marine fish populations in Delaware's territorial waters with data collected in adult and juvenile trawl samples, analysis of data sets and conducting periodic stock assessments of different species. Continue to pursue potential sources of revenue to support marine fisheries management.
- Increase investigations of events in the aquatic environments that result in the loss of natural habitat, fish population changes and fish kills.
- Maintain artificial habitat (reefs) to colonize benthic organisms by deploying 6,000 tons of material per year on eleven sites in the Delaware Bay and Ocean.
- Re-establish and monitor a viable commercial oyster fishery with direct harvest from natural oyster beds.
- Develop and implement procedures to document essential fish habitats.
- Improve public participation in marine fisheries management.
- Improve game fish populations in tidal fresh water.
- Mechanically harvest nuisance marine macroalgae in the Inland Bays to maintain water quality, aesthetics and boating access.
- Coordinate marine mammal strandings with other states and the National Marine Fisheries Service
- Monitor blue crab population trends in the State's jurisdictional waters by conducting periodic surveys of stock size and abundance and compiling annual stock assessment.
- Monitor oysters for disease, recruitment and population trends.

Natural Lands Management

Objective:
Improve the quality of the environment in State Park and Fish and Wildlife lands through habitat analysis, management, stewardship and appropriate recreational uses and infrastructure development.

Activity:

- Develop one comprehensive Park management plan and one State Wildlife Area Management Plan annually through the year 2005

Objective:
Enhance the state's Natural Areas Program to better protect and manage critical natural areas

Activities:

- Identify potential natural areas through a comprehensive survey of state-owned and private lands that qualify as State Nature Preserves.

- Develop one comprehensive, site specific Nature Preserve Management Plan annually through the year 2005 that addresses the environmental protection requirements and management of the site, including recreational use, educational opportunities and future infrastructure needs.
- Implement one Nature Preserve Management Plan annually beginning in 2001.

Objective:
Enhance wildlife management efforts to stabilize or increase wildlife and fish populations

Activities:
- Update and customize wildlife management practices at each state park annually.
- Identify and control nuisance wildlife species in state parks.
- Identify current resources and practices and develop a fisheries management plan for two state parks annually.

Fostering Partnerships with private land owners

Objective:
Achieve environmental improvements to privately-owned open space in order to benefit fish and wildlife populations and enhance water quality.

Activities:
- Meet the impoundment restoration goals identified in the Northern Delaware Wetlands Rehabilitation Plan.
- Protect an additional 2,000 acres annually of conservation lands by acquisition and easements with emphasis on upland forests and riparian buffers by 2006.
- Implement the existing state-level responsibilities for achieving the goals and objectives of the North American Waterfowl Management Plan through continued participation by Delaware through partnerships with Ducks Unlimited and other organizations as identified by increased acres managed in the Plan.
- Achieve the environmental improvement objectives for wetlands and fisheries identified in the DNREC/Public Service Electric &Gas (PSE&G) settlement agreement of 1995.
- Reduce nuisance plant species on public and private lands and waters/wetlands in order to improve the natural functioning of these systems. The number of acres or phragmites controlled in aquatic environments will be used to provide success in reducing the estimated 30,000 acres statewide.
- Coordinate the recording of four conservation easements annually by private landowners to further the protection of valuable open space and critical habitats and to preclude development of areas worthy of biodiversity conservation.

Protecting and Enhancing Wetlands

Objective:
Improve the function and value of coastal and freshwater wetlands for habitat, flood control and water quality enhancements.

Activities:

- Fully implement the Comprehensive Conservation and Management Plan for Delaware's Tidal Wetlands by year 2003.
- Achieve 25 percent of the impoundment restoration goals identified in the Northern Delaware Wetlands Rehabilitation Plan by year 2003 (complete seven site projects).
- Implement 100 percent of the existing state-level responsibilities for achieving the goals and objectives of the North American Waterfowl Management Plan by the year 2003.
- Achieve by year 2010 the environmental improvement objectives for wetlands and fisheries identified in the DNREC/PSE&G Settlement Agreement of 1995.
- Reduce nuisance plant species on public and private lands and waters/wetlands in order to improve the natural functioning of these systems by a minimum of 2000 acres per year through the year 2003.
- Seek passage of freshwater wetlands legislation in order to preclude development of our state's most valuable freshwater wetlands.

Protecting, restoring and enhancing fisheries and wildlife habitat

Objective:
Maintain and improve management of fish and wildlife habitats on public lands through planning, assessment and land acquisition.

Activities:

- Increase the number of acres actively managed for wildlife or fisheries habitats on public and/or private lands by five percent annually.
- Develop one comprehensive Wildlife Area Management Plan each year that provides a basis for habitat and species management, hunting, observation opportunities and that improves the quality of the environment.
- Continue implementation of protection, recovery or management plans (federal or state) for endangered, threatened, or species of special concern on an annual basis for 15 species currently listed.
- Complete a natural community classification document for Delaware, and assign rarity ranks for each community type by 2004.

- Develop a checklist for the flora of Delaware, including bryophytes, and assign a state rarity rank for each taxon by 2004.
- Complete natural heritage inventories of five wildlife management areas by 2010.
- As a growth management tool, protect 10,000 additional acres of land through the Open Space Program, donations and/or conservation easements for parks, wildlife areas, state forests, cultural sites and greenways.
- Control aquatic weeds and algae in public ponds to maintain water quality, aesthetics and boating access.
- Re-examine the Natural Area Inventory for possible changes resulting from new development and educate landowners on the value of our state's natural areas.

Enhance non-game wildlife program

Objective:
Improve the management of the State's non-game program to protect threatened and endangered species through education, landowner contacts and planning. Success of the program will be determined by the number of landowner contacts and the number of species under active management.

Activities:
- Provide a stable funding source for the Non-game Program.
- Continue implementation of protection, recovery or management plans (federal or state) for endangered, threatened, or species of special concern such as the bog turtle, Delmarva fox squirrel, songbirds and shorebirds.
- Develop at least one strategy per year to prevent species from coming threatened or endangered.
- Develop and publish a statewide biodiversity assessment

GOAL: Broaden the Commitment to Environmental Protection and Resource Conservation

Economic, environmental, and social problems cannot be addressed in isolation. The Department works in partnership with others to develop strategies that integrate economic development, environmental quality, and social policy making with broad public involvement. Integration means the coordination and/or unification of Department programs and authorities for the purpose of more effectively and efficiently preventing or reducing damage to the environment. This involves a systematic approach that reflects shared goals and takes into account the linkages of the environment, both internally (cross media) and externally with society. "Internal integration" refers to environmental policy actions taken across media to prevent release of pollutants and control residues. "External integration" refers to incorporating environmental policy into other types of policy ranging from agriculture, transportation, and energy to trade and

economic development. The quality of the environment in the next century will largely be determined by the degree to which external integration succeeds. The Department strives to create a widely held ethic of stewardship that strongly encourages individuals, institutions, and corporations to take full responsibility for the economic, environmental, and social consequences of their actions.

Implementing Delaware's Coastal Zone Act

Objective
Insure that no new Heavy Industry locates a facility within Delaware's Coastal Zone and that manufacturing facilities within the zone obtain appropriate permits and provide adequate offsetting projects for negative environmental consequences.

- Respond to permit and status decision requests according to statutory deadlines.
- Provide for individualized notification of permit or other Coastal Zone Act actions to interested citizens and insure that all actions are taken only after extensive opportunity for public comment.
- By 2003 provide new environmental indicator data (e.g. invasive species coverage such as Phragmites and purple loosestrife) and analysis of historical forest cover for use in DNREC's Environmental Information System.

Data Integration/Information Management

Objective

- By June 2002, DNREC will complete the ongoing development of an integrated environmental information system containing facility, permitting, ambient monitoring, natural resource and enforcement data. Public information in this system will be accessible through the Internet.
- By June 2002 DNREC will develop a Notification System to notify the public by phone, fax or e-mail of all un-permitted releases to the environment
- Implement an Electronic Document Management System throughout the Department by June 2004.
- Implement e-Government initiatives to sell fishing and hunting permits; sell park passes; accept applications and fees for Septic and Sediment Control Structures; accept Discharge Monitoring reports and Hazardous Waste Manifests; and payment of Underground Tank fees over the Internet by June 2003.

Activities:

Environmental Information System

- Ensure that investments in information resources are optimized in terms of benefit to the Department and its constituents.
- Coordinate the development, maintenance, management, and usage of the Department's information resources.
- Identify and support implementation of technology-enabled enhancements for service delivery such as electronic document management, data integration, e-Government, electronic reporting, public access via the Internet, etc.
- Manage the operation of a system to notify the public of un-permitted environmental releases.

Windows 2000 Migration

- Prepare a Study of the Existing System and Recommend a path forward for migration by October 2000
- Conduct a pilot migration for a small organizational unit within DNREC by March 2001
- Conduct full migration according to the plan to be laid out by the Office of Information Services

Land Use

Objective:

Coordinate land use activities with other agencies and county and municipal governments to preserve open space, and minimize impacts to habitat, air and water quality.

Activities:

- Actively participate in the Livable Delaware program in concert with the Office of State Planning and Coordination and work to implement DNREC's Livable Delaware Implementation Plan
- Work in conjunction with the Office of State Planning in revising the LUPA process to be more inclusive in what properties undergo LUPA review and in attaining better information on sites undergoing review
- Clean up and make available for reuse eight Brownfields sites annually
- Complete eight Brownfields Environmental Assessments at sites targeted for redevelopment.
- Complete by 2003 a statewide inventory of Brownfields sites located in Delaware.
- Assist communities by providing alternative funding sources, such as the 21st Century Fund, for water and wastewater infrastructure.
- Assist the counties in the final preparation of their Comprehensive Plan updates, conduct a formal review of those updates under LUPA, and provide technical assistance to the counties in implementation of their Comprehensive Plans to ensure compliance with "Shaping Delaware's Future: Managing Growth in the 21st Century Delaware, Strategies for State Policies and Spending."

- Protect 10,000 additional acres of land through the Open Space Program, through purchase, donation and conservation easements, by 2002 for parks, wildlife areas, state forests, cultural sites and greenways.
- Participate with the Cabinet Committee on State Planning Initiatives

Public Involvement/Public Outreach

Objective:
DNREC will enhance public access to information related to enforcement actions and unpermitted releases to the environment.

Activities:
- DNREC will provide weekly updates to its web site regarding criminal warrants and notices of violations issued and, as needed, administrative enforcement actions taken.
- By early 2001, DNREC will develop a database, to be available on the Department web site, that will document unpermitted releases to the environment within 24 hours (or the next business day) of confirming such releases.

Objective:
DNREC will increase the public's understanding of the agency, its activities and environmental issues.

Activities:
- Produce communication products such as the weekly DNREC News packet and Outdoor Delaware magazine for citizens, media, conservation organizations, elected officials and business leaders.
- Participate in special events such as Coast Day, Delaware State Fair and others.
- Develop and implement environmental education programs with Department of Education.
- Coordinate with constituents on issues of special concern to further educational efforts through workshops, conferences and publications.
- Offer educational programs and "hands on" environmental experiences through State park facilities, the St. Jones Reserve and the Aquatic Resource Education Center.
- Establish a program to bring together community groups, schools, religious organizations and local governments to develop pollution prevention strategies for their organizations.

Objective:
DNREC will establish baseline data to increase communications efforts by targeting disadvantaged socio-economic populations on environmental issues, which may affect those population groups. The communications effort will then increase 25 percent annually after this year 2000 target.

Activities:

- Work with the Community Involvement Advisory Council in implementing its recommendations for Department actions and procedures addressing communication issues, identifying impacted communities and public involvement – input into the decision-making process.
- Train Department staff in communication skills specifically relating to communicating with the Department.
- DNREC will work with interested communities to replace failing on-site wastewater systems and unsafe drinking water wells.

Objective:

By January 1, 2003, establish a recognition program for business and industry where facilities which exhibit good compliance histories and utilize Environmental Management Systems are credited for their superior performance and commitment to Delaware's environment .

Activity:

- Work with chambers of commerce and business representatives in crafting the recognition program that is relatively easy to implement and provides meaningful recognition to participating businesses.

Cultural Programs

Objective:

Research cultural and historical resources in state parks and to establish historical interpretative programming, including living history and assist all DNREC programs in meeting their responsibilities, under state and federal preservation laws.

Activities:

- Locate and identify prehistoric and historic cultural resources on one percent of DNREC landholdings annually
- Develop cultural resources management plans for two state parks, nature preserves, or wildlife areas by 2004
- Identify and document at least one significant folklore resource in Delaware annually.

Objective:

Establish separate History and Research Program and required staffing to meet increased research and interpretation demands

Activities:

- Increase research for historically accurate living history programs at four state parks by 2002.
- Provide historical research for restorations, historically accurate furnishings, interpretation, education, exhibits and publications.

Objective:

Expand and enhance interpretation and exhibit capabilities in the State Park system to help increase citizen participation in Park programs.

Activities:

- Renovate one major exhibit at the Brandywine Zoo annually.
- Implement an exhibit signage system at the Brandywine Zoo in 2001.

Watershed Management

Objective:
By 2003 DNREC's Whole Basin Management Program will compete a multi-disciplinary environmental assessment for the entire state. The assessment data and information will be featured in a series of assessment reports that will contain prioritized recommendations, data, information and Geographic Information System coverages relating to geology, soils and sediments, demographics, contaminants, air quality, water resources, wetlands, living resources and land use analysis.

Activities:

- Complete Inland Bays/Atlantic Ocean Assessment Report and finalize GIS coverages following the mapping standards developed by the Chesapeake Basin Team by 2001.
- Finish Delaware Bay and Estuary Assessment report and develop and prioritize recommendations by 2002.
- Update Piedmont Assessment report by 2003; activities include revision of GIS coverages, reevaluation and reprioritization of recommendations and update to text.
- Incorporate key information and recommendations from all four Basin Team Assessment reports into one document to include all statewide GIS coverages by 2004. Report would include information on recommendations being implemented and priority projects recommended for implementation.
- Develop public outreach documents for the Chesapeake and Delaware estuary basins by 2003.

Energy and the Environment

Objective
Minimize environmental impacts from energy production and use, both for electrical generation and transportation use.

Activity:
Coordinate with the Governor's Office, State Energy Office, the Public Service Commission, the General Assembly, utilities and other interested parties in development of a long range energy plan for Delaware which emphasizes environmentally preferential energy options, including conservation, alternatives and renewables.

GOAL: Promote and Provide Recreational Opportunities

Recreational opportunities that allow Delawareans to enjoy natural resources and open spaces, contribute to and enhance our quality of life and result in a more Livable Delaware. The Department strives to provide recreational opportunities while balancing resource protection with

resource use. A diverse system of state parks and wildlife areas that protects natural resources and provides recreational and environmental educational opportunities is crucial. Achieving this goal requires good quality air, water and soils, plus healthy living resources. Sustaining this goal requires coordination of Department activities. This effort involves provision of public access and other recreational facilities, balancing multiple uses, and performing educational outreach.

Response to Growth of the State Parks and Fish and Wildlife Areas

Objective:
Continue to implement innovative entrepreneurial initiatives and increase revenues to support operations and programming.

Activities:

- Increase park and facility revenue through legislative approval for increased entrance fees, expanded fee collection seasons and special use fees/ charges.
- Expand the use of e-Government initiatives for better availability of information, resources, reservations and other business services that have the potential for increasing revenue and providing a higher level of customer service.
- Develop a comprehensive retail program, including nature stores, offering visitors the opportunity to purchase appropriate souvenirs, Delaware made products and other commodities which support or enhance the park experience.
- Develop new public use facilities for State Wildlife and Fisheries Areas to provide the infrastructure needed to promote ecotourism in Delaware.
- Develop business plans for all new special use facilities, retail sales programs and special events to ensure self-sufficiency.

Objective:
Provide safe and enjoyable recreational opportunities and visitor services for all parks.

Activities:

- Increase number of people participating in park programs by 2.5% annually through 2003.
- Reduce the number of visitor and employee accidents in state parks.
- Enhance recruitment efforts for seasonal employees and address salary compensation issues for increased retention rate.

- Achieve minimum staffing levels for safety/enforcement needs at all parks.

- Perform routine safety inspections on all playground equipment to ensure they meet National Playground Safety Standards.
- Revise current regulations concerning use of the land and water Conservation Program to make more monies available to local governments for park acquisition, greenways and trails.
- Continue creative partnerships with profit and not-for-profit organizations to provide park services and raise funds.

Objective:
Provide maintenance support and equipment necessary for effective operation of all state park facilities.

Activity:
- Develop comprehensive maintenance management plans for all state parks, which include replacement schedule for vehicles and major equipment.

Maintaining Wide Recreational Beaches

Objective:

Achieve no net loss of recreational and protective beach area along the publicly accessible, developed portions of the Delaware Bayshore and Atlantic Ocean coast as measured on a 3 to 7 year re-nourishment cycle.

Activity:
- Work with the Army Corps of Engineers to identify sand locations to use for several upcoming renourishment projects.
- Continue partnership with the Federal government to develop and construct comprehensive shore protection along urbanized public beaches.

Enhance Park Infrastructure, Maintenance and Restoration

Objective:

Improve cultural artifact curatorial resources and continue restoration of historical buildings throughout the State park system.

Activities:
- Implement a resident curatorship program for appropriate state park facilities by 2004.
- Continue restoration efforts at Fort Delaware through 2004 to develop as a regional tourist destination.
- Continue implementation of historic restoration/preservation and adaptive reuse of facilities for the general public. (i.e. Judge Morris Estate, Cleaver House, Blue Ball Barn)

- Initiate preservation and renovation efforts of historic sites at Fort DuPont, Cape Henlopen, Trap Pond, Brandywine Creek and Wilmington State Parks to allow for public access, interpretation and other public programming.

Fort Delaware/Fort DuPont

Objective:

Expand operation, maintenance and interpretative/living history service and required staffing to meet increased demands for implementation of a seven-day-a-week operation consistent with all other parks.

Activities:

- Pursue a capital funding campaign goal of $2.5 million by 2003 from individual, corporate and foundation sponsors.
- Develop a plan for overnight accommodations in the Fort in 2003.
- Expand visitor center to two floors by 2004 and include new displays, hands-on exhibits and theatre for viewing films on Fort's history.
- Strengthen Parks and Corrections Training Program (PACT) partnership with the Department of Corrections to ensure maximum inmate participation.

Providing Boating Opportunities

Objective:

Provide safe, enjoyable boating opportunities on Delaware's waterways

Activities:

- Rehabilitate at least one major public fishing and boating facility a year in order to provide 200,000 marine anglers and 40,000 boat operators, safe and convenient access to tidal waters.
- Maintain twenty-nine non-tidal fishing and boating areas for safe and convenient access to public ponds and lakes.
- Maintain and mark inland waterway navigational channels for the boating public.

APPENDIX B

Livable Delaware Program Templates

Delaware Water Pollution Control Revolving Fund and 21st Century Fund – Wastewater Management Account

Contact Person:

Alan Farling, P.E.
Administrator, Financial Assistance Branch

Enabling Laws:

Title VI, Federal Water Pollution Control Act
Title 29 Delaware Code Chapter 80, Sec. 8003, 11 & 12c. 29 Del C. Sec 6102A (g)

Policies/Regulations:

Standard Operating Procedures for the Delaware Water Pollution Control Revolving Fund and the Regulations Governing the Administration of the Delaware Water Pollution Control Revolving Fund. Expenditures of the 21st Century Fund—Wastewater Management Account are subject to the projects being on the project priority list established for the Delaware Water Pollution Control Revolving Fund.

History:

Created in 1990, the Delaware Water Pollution Control Revolving Fund has awarded 634 loans totaling $87,629,456 for water pollution control projects such as new sanitary sewers, wastewater treatment facilities, replacement septic systems, and manure management facilities for poultry and dairy operations. Established in 1996, the Wastewater Management Account has provided 19 wastewater facility planning grants totaling $467,860 and 15 wastewater facility construction grants totaling $23,877,881.

Current Situation:

The 21st Century Fund—Wastewater Management Account program currently meets the goal of directing investment and future development to existing communities, urban concentrations and growth areas. At the same time it also addresses the goal of protecting the state's water supplies, open spaces, farmlands and communities by encouraging revitalization of existing water and wastewater systems and the construction of new systems. The program does this by evaluating and ranking all projects eligible for State and Federal funding assistance using a priority system.

A numeric scoring system was developed to rank each project in accordance to the following classifications:

	Maximum Score
Water Quality Protection	45 points
Targeted Waterbodies	15 points

Wastewater Facility Priorities---------- 30 points
Strategies for State Policies and Spending------- 10 points
Total Priority Score----------100 points

Under each classification is a breakdown of how points are assigned. In regards to the investment areas, the points are currently assigned to projects using the following:

Investment Area	Points
Communities	10
Urban Centers	10
Employment Centers	10
Developing Areas	8
Environmentally Sensitive Developing Areas	8
Secondary Developing Areas	2
Rural Area	0

Projects are ranked based on the final scores, with the maximum score being 100. The final score will determine the Project Priority List. In case of a tie in the priority ranking, projects will be selected in the order of the population served. The project benefiting the larger population will be ranked higher.

The emphasis is to fund projects with loans and/or supplemental grants where needed to make projects affordable according to established median household income affordability criteria. Assistance is also available to fund projects that are desirable and necessary, but that are otherwise limited or restricted for funding through existing federal programs.

Revisions/Actions Needed:

Additional funding is needed to keep the Wastewater Management Account going after 2001.

Resources needed to create/revise:

The Wastewater Facilities Advisory Council has estimated a need of $154,000,000 for wastewater facility projects statewide and another $54,000,000 for improvements in the New Castle County transmission system, at a minimum annual appropriation of $15 million. In addition, $1.5 million is requested to provide the required 20 % match for Federal Capitalization grant of $6.5 million.

Process for creation/revision

Appropriation from the General Assembly

Schedule:

On hold due to budget constraints.

Measures to guide progress:

Amount of loans and/or grants awarded. Number of pounds of pollutants removed from the environment.

Interactions or inter-relationships with other agencies or units of government:

Program is coordinated with the USDA-RUS program in awarding low interest loans for projects of mutual interest and with the Delaware Water Pollution Control Revolving Fund. Program is overseen by the Wastewater Facilities Advisory Council.

Identify how capital and budgeting and planning will be used to implement the Investment Strategies:

Annually, a project priority list is developed that ranks projects based on water quality protection, targeted waterbodies, wastewater facility priorities, and strategies for state policies and spending. $1.5 million is requested to provide the required 20 % match for Federal Capitalization grant of $6.5 million. $15 million is requested for the Wastewater Management Account.

On-Site Wastewater Treatment and Disposal

Contact Person:

Rodney Wyatt
Manager, Ground Water Discharges Section

Enabling Laws:

Title 7 Delaware Code Chapter 60

Policies/Regulations:

Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems

History:

In 1985 the State adopted regulations for siting on-site wastewater treatment and disposal systems utilizing a soil-based approach. This provided to the State, a more consistent and environmentally sound program determining site suitability for septic systems. Considered as appropriate technology for rural areas with low densities on-site systems rapidly became the dominant way for developing land throughout the State, with an allowable density of one-half (1/2) acre and a wider range of permissible operating ranges. Recent advances in septic technologies allowed even more marginal sites to be developed.

These systems, provided they are properly maintained and pumped out every three years, have an average life expectancy of 20-25 years with replacement costs varying from 2,500-20,000 dollars. A typical gravity septic system operating under ideal conditions removes less than 35% of the nitrogen from wastewater. The remaining nitrogen undergoes a variety of transformations. Nitrogen can accumulate in the biological mat, convert to nitrogen gas which escapes to the atmosphere, be converted to nitrate-nitrogen which may be taken up by large vascular plants or may enter the ground water.

Advances in septic technology have nearly doubled the life expectancy and efficiency of their operation. Some technology can now remove over 50 % of the nitrogen from septic systems. For many of rural areas of the State, this technology still has a valuable place in land development decisions.

Current Situation:

This program reviews, field verifies, approves, and/or denies site evaluations for the suitability of soils for on-site wastewater treatment and disposal systems. The program operates on a mix of general and fee revenue funding and has done so without a fee increase in 10 years. Yearly, the program is responsible for permitting between 2000 and 3000 septic systems.

Revisions/Actions Needed:

Legislation to require pollution control strategies for septic systems in watersheds with TMDLs is being considered, as is the use of incentives and disincentives to help direct growth under Livable Delaware as shown below. Some of the changes are outside the authority of the On-site Wastewater (Small System) Program and will require intergovernmental coordination between counties, municipalities and other State agencies. Whether or not the legislation is strictly focused on environmental improvement or serves as a Livable Delaware growth management approach will be determined once the legislation is written.

Possible Incentives and Disincentives

State Investment Areas	Impact Fees [1]	Review Fees [1]	[2] Additional Technology Requirements	[3] Additional Maintenance & Compliance	Anticipated Density [4]	Expedited Review & Coordination by agencies	[5] Additional Infrastructure Requirements	[6] Grants and Loans for Central Sewers
Community, Employment and Urban Centers	N/A	N/A	normally N/A, case-by-case may exist	N/A	High	Yes	no additional state requirements	Yes
Developing Areas	No	No	Yes, PCS only	No, unless c.s. is > 10 yrs.	High	Yes	Dry lines installed	Yes
Environmentally Sensitive Developing Areas	Mod.	Mod.	Yes, PCS (pollution control strategy)	Yes	Moderate to low	No expedited review	Dry lines installed	Yes
Secondary Developing Areas	Low	Low	Yes, PCS and dual system if c.s. >10 years	Yes, if central sewer (c.s.) is >10 years	Moderate	Depends on local government	Dry lines installed	Yes
Rural Area	High	High	Yes, dual systems + PCS	Yes	Low (e.g. 1 dwelling per 10 acres)	No expedited review	N/A	No

Notes:

[1] All proposed fees (impact and review) to be established or waived would be part of the On-Site Wastewater Program and established through approval by the General Assembly.

[2, 3 & 5] Legislation regarding TMDL and septic maintenance requirements will be needed. Additional technology and infrastructure requirements for the different investment area will be part of the Regulation development process.

[4] Maximum density is dependent on each zoning classification and the descriptors used are considered to the anticipated density for each area under this proposal. Density will need to be established by each county or local municipality as part of their zoning regulations.

[6] Grants and Loans sought through the State's SRF Wastewater Management Account would have to meet the criteria and be ranked on the Project Priority List each year.

Resources needed to create/revise:

Statutory and regulatory changes may be needed to amend our fee schedule, create new fees, and/or establish incentives and disincentives for each investment area. Additional staff may also be needed to implement program changes and manage any increased level of review. The quantity of any additional resources is dependent on final outcome of the legislative process. Assuming an increase in regulatory requirements and greater reliance on incentives and disincentives to direct growth, we would estimate resource needs as the following:

Salaries:

Environmental Scientists 2 @ 60 K	$120,000
Environmental Control Tech. 2 @ $30k	$ 60,000
Data Entry Positions 2 @ $30k	$ 60,000
	$240,000

Estimated start-up costs: $300,000
Estimated operating costs: $100,000

Funding Source: General Funds or Fees

Process for creation/revision:
Statutory and regulatory process to be followed.

Schedule:
To be determined.

Measures to guide progress:
To be determined and developed.

Interactions or inter-relationships with other agencies or units of government:
The program works with each of the respective counties and EPA. This program also works with other programs (e.g. wells) within DNREC and members of the regulated community.

Sediment and Stormwater

Contact Person:
Frank M. Piorko

Enabling Laws:
7 Del. C. Chapter 40

The Sediment and Stormwater Regulations authorize the Department of Natural Resources and Environmental Control (DNREC), in cooperation with conservation districts, counties, municipalities and other local governments to develop a comprehensive and coordinated erosion and sediment control and stormwater management program to conserve and protect land, water and other resources of the State.

The Sediment and Stormwater Program regulates land development activity both during the construction phase by requiring temporary erosion and sediment control practices, and the post-construction phase with the requirement for stormwater management practices designed to minimize water quality and water quantity impacts from land development.

History:

The Sediment and Stormwater Management Program is a unit within the Conservation District Operations Section in the Division of Soil and Water Conservation. Created by the 135th General Assembly, Senate Bill No. 359 and signed into law on June 15, 1990, the Sediment and Stormwater Law states in part that …accelerated stormwater runoff increases flood flows and velocities, contributes to erosion, sedimentation and degradation of water quality… and threatens public health, welfare and safety.

Current Situation:

The Sediment and Stormwater Program requires a thorough review of land development plans for consistency with the technical requirements of the regulations for almost all major land development projects. This review is accomplished through one of seven delegated local agencies throughout the state, including conservation districts, counties, municipalities and DelDOT.

The Sediment and Stormwater Program has also been developing guidelines and design assistance to promote stormwater management design that fits better with the goal of low impact development. This guidance demonstrates the benefit from a "water budget analysis" of utilizing conservation design or low impact development by reducing impervious surfaces, using more open space for recharge of runoff, and using existing or created buffers to filter stormwater runoff before entering sensitive environmental areas.

The efforts of this program specifically address the goals of protecting critical natural resource areas and coordinating public policy planning among state, county and municipal agencies. More technical assistance could be developed throughout the site planning process to assist in conservation design for large residential parcels.

The current stormwater management program does not contain an incentive for re-development in existing developed areas. This should be considered for modification to more adequately address the goal of streamlining the regulatory process and providing flexible incentives for re-development activities.

Revisions/Actions Needed:

1) Of significant importance is the need to develop a stormwater program component providing an incentive for development in communities and urban centers. Often, re-development takes place in areas where stormwater management infrastructure is inadequate, and building to meet current requirements may be cost prohibitive. It should be possible for stormwater objectives to be examined with redevelopment goals to determine if a better strategy for management is possible.

2) Given additional resources, the DNREC Sediment and Stormwater program has the capability to expand the technical assistance given to the land development community with the assistance of the local land use authorities. To coordinate better stormwater planning at the county comprehensive plan level, to identify resource protection areas and buffer them from impacts of developed lands and offer technical environmental planning assistance through the conservation districts, are all goals consistent with State planning efforts and should be encouraged and further developed.

Resources Needed to Create / Revise:

The first program revision could be accomplished with existing staff resources. A coordinated effort would have to be made with the Brownfields program and Delaware Economic Development Office.

The second program expansion would require additional financial resources to support contracting with a Land Trust or Conservancy to provide conservation planning to the land development community for two years. It is estimated that $25,000 the first year and $35,000 the second year would be needed to create this technical assistance program. It is anticipated that the land development community would support the technical assistance costs after the second year. Grant funding or existing contractual funds would be used to fund this effort. No additional state general funds would be sought.

Process for Creation / Revision:

To modify the stormwater program requirements to support re-development, a survey of existing state and municipal stormwater programs could be accomplished to determine incentive applicability in Delaware. It is possible that a regulation change may be necessary to provide the desired incentive. Any proposed incentives would have to be developed to be in compliance with Federal stormwater requirements as well.

To effect the proposed technical assistance planning, grant funding must be secured, contractual services arranged and the planning services marketed. This could be accomplished with the assistance of the Conservation Districts statewide.

Schedule:

Increase the effort to work with the Cabinet Committee on State Planning, Delaware Economic Development Office and Brownfields Program to provide an incentive to meet regulatory requirements for stormwater management for re-development projects.

Identify areas of policy or regulations that require change or revision - 2002

Begin revision within regulatory process - 2002

Implement program strategies that support re-development goals of Livable Delaware - 2003

Improve the effort for Conservation Design for land development projects with support from the local land use agencies, including providing local conservation design planning assistance.

Secure grant funding - October 2002

Contract with Land Conservancy Municipal Assistance Program - October 2002

Begin offering technical assistance - January 2003

Measures to Guide Progress:

The number of site re-development projects that new program approaches might assist could measure the re-development strategies that would be developed by the stormwater program.

Land development plans benefiting from Conservation Design planning would result in more open space, better resource protection and more natural recharge of stormwater. All of these benefits are measurable. A cost/benefit analysis would be developed based on these factors. The demand for the planning services offered would also measure whether progress is being made toward protecting natural resources.

Interactions with Other Agencies:

The strategy of providing stormwater regulatory incentives for re-development projects will require interaction within DNREC's Brownfields program. Strategic guidance will also be sought from EPA. The Delaware Economic Development Office may also provide assistance with this task.

Conservation Design planning will require assistance of the local land use approval authorities, municipalities, conservation districts and a Land Trust consultant.

Capital and Budget Planning

A source of funding for the Conservation Design planning would need to be developed to implement the goal of protecting critical natural resource areas and open space. Grant funding could be sought for this task. No need for additional state general funds is anticipated.

It is not anticipated that funding would be necessary to initiate stormwater strategies for re-development.

Community and Large On-site Wastewater Systems

Contact Person:

Rodney Wyatt
Manager, Ground Water Discharges Section

Enabling Laws:

Title 7 Delaware Code Chapter 60

Policies/Regulations:

Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems, State of Delaware Regulations Governing Underground Injection Control, Guidance and Regulations Governing the Land Treatment of Wastes

History:

Initially this program was managed under the EPA's NPDES program. Minimally staffed and given a low priority, the program was unable to provide oversight and ensure the integrity of the on-site/decentralized systems being installed. With a high percentage of community system failures and corrective actions that were often slow or not feasible, public and local government's perception of this type of technology was poor. Reorganized under the Groundwater Discharges Section and given additional staff and resources, this program began providing the kind of oversight needed.

Current Situation:

This program is now managed in junction with EPA's Underground Injection Control Program. All large, community, spray irrigation and alternative on-site and decentralized wastewater treatment systems are permitted through this program. This program provides services to the public through the inspection, inventory and a review of the management of these systems. The program is managed through a mix of general, fees and a federal grant and has not had a fee increase in 10 years.

Revisions/Actions Needed:

Revisions to the Regulations will be needed in order to encourage the use of large managed community systems over smaller individual systems. An example of proposed amendments would be "Proposed subdivisions with more than 55% of the lots requiring pressurization must use a community system." Included in the revisions would be a set of incentives and disincentives factors for each investment area. A matrix approach would be part of evaluating wastewater choices in growth and non-growth areas. Each of the Counties would need to address and make changes to local codes.

Resources needed to create/revise:

Increased levels of funding must be obtained in order to make the proposed changes. The number of staff and resources requested in the small system template should be sufficient for both programs.

Process for creation/revision:

Regulatory process to be followed.

Schedule:

To be determined.

Measures to guide progress:

To be determined and developed.

Interactions or inter-relationships with other agencies or units of government:

Interactions with County governments, Federal agencies, Center for Inland bays, Department of Agriculture, and others, will be crucial to the success of the program, as many of our goals are jointly shared and many concerns are similar.

Identify how capital and budgeting and planning will be used to implement the Investment Strategies: To be determined by Secretary's Office.

Incentives and Disincentives factors

State Investment Areas	Impact Fees [1]	Review Fees [1]	Anticipated Density [2]	Expedited Review & Coordination by agencies	Community Systems given preference
Community, Employment and Urban Centers	N/A	N/A	High	Yes	N/A
Developing Areas	No	No	High	Yes	Yes
Environmentally Sensitive Developing Areas	Mod.	Mod.	High to Moderate	No expedited review	Yes
Secondary Developing Areas	Low	Low	Moderate	Depends on local government	Yes
Rural Area	Mod.	Mod.	Low to moderate	No expedited review	Case by Case decision

[1] All proposed fees (impact and review) to be established or waived would be part of the On-Site Wastewater Program and established through approval by the General Assembly.

[2] Maximum density is dependent on each zoning classification and the descriptors used are considered to the anticipated density for each area under this proposal. Density will need to be established by each county or local municipality as part of their zoning regulations.

Land Application of Wastewaters (Spray Irrigation)

Contact Person:

Rodney Wyatt
Manager, Ground Water Discharges Section

Enabling Laws:

Title 7 Delaware Code Chapter 60

Policies/Regulations:

Guidance and Regulations Governing the Land Application of Wastes

History:

Spray irrigation facilities are very land intensive. A one-million gallon per day (1 MGD) facility can require up to 150 acres of contiguous agricultural land for treatment and land application of the reclaimed water. Spray irrigation facilities promote the preservation of agricultural land, as the average life expectancy of a spray irrigation facility is 40+ years. Land use planners should promote the preservation of large tracks of farmland in consideration of wastewater spray irrigation over stream discharge of wastewater.

Current Situation:

This program issues permits for facilities (industrial, community, or municipal) to construct, operate and maintain a wastewater treatment facility, utilizing agricultural land for final application of the reclaimed water.

Revisions/Actions Needed:

Goals #2 and # 8 of the Livable Delaware initiative are currently satisfied by the operation of this program. Spray irrigation is a viable option for wastewater management, particularly in designated growth areas of the State. With the advances in wastewater treatment technology, more marginal soils are being approved for treatment and disposal, leaving the better lands for farming purposes.

Resources needed to create/revise:

None at this time. In the future, revisions to the Regulations may be needed.

Process for creation/revision:

If found necessary, personnel will follow standard procedures for developing, reviewing, revising and promulgating the Guidance and Regulations Governing the Land Application of Wastes.

Schedule:

N/A

Measures to guide progress:

To be determined and developed.

Interactions or inter-relationships with other agencies or units of government:

Delaware Nutrient Management Commission, Department of Agriculture, EPA, etc.

Identify how capital and budgeting and planning will be used to implement the Investment Strategies:

Ensure current funding levels persist.

National Pollutant Discharge Elimination System Program (NPDES)

Contact Person:

R. Peder Hansen, P.E./P.G.
Manager, Surface Water Discharges Section

Enabling Laws:

Title 7 Delaware Code Chapter 60

Policies/Regulations:

Regulations Governing the Control of Water Pollution

History:

The NPDES Program seeks to prevent, manage, and/or control the pollution from activities that affect or have the reasonable potential to affect the quality of surface and ground water of the State.

Current Situation:

Land-use decisions need to consider the long-term impacts of population growth and land-use activities that may directly impact water quality. Development may be planned in areas that have inadequate wastewater and stormwater infrastructure. Overall increased demand has exceeded the infrastructure's capacity in certain areas. The section has long had an unwritten policy of "no new NPDES discharges". This has effectively eliminated small package treatment plants discharging to surface water as an option for wastewater disposal. Consequently, this policy already encourages growth into areas with central sewer. This program also influences growth through the permit limits, specifically the wastewater capacity, set for each facility.

Revisions/Actions Needed:

None expected at this time.

Resources needed to create/revise:

N/A

Process for creation/revision:

N/A

Schedule:

N/A

Measures to guide progress:

N/A

Interactions or inter-relationships with other agencies or units of government:

This program frequently interacts with EPA, the Delaware Nutrient Management Commission, and county and municipal officials.

Identify how capital and budgeting and planning will be used to implement the Investment Strategies:

Continue current operations.

Local Air Quality Impact Analysis

Activity/Policy/Program name:

Explore the incorporation of air quality in local land use decision-making by streamlining the planning/regulatory process in targeted growth areas and increasing requirements for all land use categories in "green fields" to promote more compact/transit-friendly/walkable communities. Investigate the expansion of air dispersion modeling and air monitoring to allow evaluation of air emission impacts from new developments. The emphasis is on creation of a focus group to identify problems and opportunities, and incentives and disincentives to encourage development in desired areas.

Contact person(s):

Raymond H. Malenfant / Robert J. Taggart / John Thomas

Enabling Laws:

- Clean Air Act of 1970 as Amended,
- 7 Del.C Chapter 60. Enabling legislation for Department of Natural resources and Environmental Control—authorizing regulation of air quality.
- others

Policies:

The Land Use Planning Act (LUPA) requires a state review of local land use planning actions of more than local concern. The Quality of Life Act (s) for each county requires that the mobility element be consistent with the State Implementation Plan (SIP) for air quality attainment. The *Clean Air Act* requires an absolute reduction of air pollution in Delaware.

History:

Delaware has been measuring ambient air quality for over 30 years--the Clean Air Act of 1970 established standardized monitoring methods and National Ambient Air Quality Standards. Within Delaware there have been many changes in the type of pollutants and the locations monitored. These changes were the result of successful air pollution control programs, changes in the scientific understanding of health effects of air pollution, changes in centers of population, changes in land use and transportation patterns, and changes in technology (that is, the instruments have become more sensitive).

WILMAPCO (the Metropolitan Planning Organization for New Castle County) regularly includes air quality within its transportation analysis, as does the Dover/Kent MPO. Conformity of all transportation plans, regardless of funding source, to air quality plans, must be determined prior to endorsement by these MPOs. Municipalities and the counties have not routinely considered air quality in any land use planning decisions

made at a parcel scale. Because the Land Use Planning Act did not envision air quality analysis at a micro-scale, technical expertise and the prerequisite technology has not been developed at the State level. However, analysis of the air quality impacts of county and municipal planning decisions might be the key to developing different approaches to improving air quality.

Current Situation:

Currently there are 11 long-term air quality-monitoring sites. A site can consist of temperature controlled equipment shelter (station) or a simple platform. A recently acquired, stand alone, transportable sampler will allow for sampling of selected air toxic compounds without a permanent shelter. This sampler is being used for short-term studies. When sampling at one site is completed, the equipment can be moved to another site. Data evaluation and analysis determines the need for additional monitoring.

In limited situations EPA Region 3 personnel have been used to conduct complex stack emission modeling. Existing state staff is untrained and not equipped to handle micro-scale modeling.

DNREC does not have ability to prepare micro scale analysis of air quality. This is due to the pervasive nature of air pollutants, as compared to other pollutants. DNREC does have some abilities to evaluate certain air pollutants on a local basis, but no procedure or program is now in place. New development in existing communities ("in-fill") will not materially increase pollution but urban sprawl (new development in "green fields") has the potential to increase air pollution significantly.

The "Quality of Life Act" requires an impact analysis of the Air Quality State Implementation Plan (SIP) for mobile sources resulting from some county land use planning activities.

Revisions/Actions Needed:

This proposal calls for the creation of a focus group to examine expanding the traffic impact studies and mobile air quality analysis to a smaller, parcel by parcel, scale. The more detailed planning scale would require a new generation of air quality monitoring and air dispersion modeling be done to determine the impacts of changing the use and density of land parcels. With better measurement and modeling new requirements that local land use planning actions have a zero net gain in air pollution might then be defensible in court. This proposal would investigate expanding on the concept of requiring a county or municipality to reduce pollution elsewhere within its jurisdiction so as to have a resulting zero net gain in air pollution. Waivers allowing development in targeted areas should also be studied by the focus group.

The focus group would need to recommend whether modeling capability needs to be expanded., whether the technical expertise of existing staff should be enhanced, and whether the computer hardware and software needed to conduct complex computer modeling needs to be established.

The focus group may find that legislation requiring air quality impact analysis should be expanded to include all county and municipal development activity (such as, land subdivision and zoning) outside the designated development areas. The focus group would likely determine whether legislation requiring potential air quality impacts resulting from subdivision and rezoning in "green fields" be attenuated elsewhere within the jurisdiction—with a potential provision to allow DNREC to waive the requirement in "brown fields" and in "in-fill" areas. The focus group could also consider new legislation requiring current or new "point and area sources" (residential, industrial, or commercial) replicate the Environmental Protection Agency (EPA) conformity requirements used in "mobile" sources. The focus group exploration would additionally result in a determination of whether no net gain in air pollution (regardless of source--mobile, stationary or area) as a result of any type of land use action was worth the effort and cost.. The focus group may also choose to recommend expansion of the horizon of state planning efforts from intra-state to inter-state, to include planning at regional levels.

Resources needed to create/revise:

Creation of a focus group composed of representatives of State planning, DNREC, DelDOT, and others as needed, to study this difficult issue and to make recommendations to the Secretary.

Process for creation/revision:

Create focus group
Review legislation and regulations to determine the modifications needed.
Recommend amendment of Code, if necessary.
Recommend development and adoption of regulations, if necessary.
Possibly acquire software and hardware.
Analyze staff capability for new approach.

Schedule:

Secretary establishes focus group.
Review regulations and state statute and propose changes (1 year)
Report to Secretary within 16 months of focus group establishment

Alternative Commute

Activity/Policy/Program name:

To explore the process of encouraging major employers in "green fields", through a system of incentives and disincentives, to provide commuter benefits to employees..

Contact Person:

Raymond H. Malenfant, Air Quality Management/Ray Miller, DTC/DOT

Enabling Laws:

Federal Clean Air Act
30 Del.C 2030 et.seq.—Travel Link Program

30 Del.C. 2051 et.seq.—Requires state agencies to develop and fund a program to provide commuter benefits for state employees.

Policies:

None at this time.

History:

Specific requirement in Clean Air Act, which was abandoned.

Current Situation:

Transitchek and WageWorks in place but inactive. MBNA has established policies to help employees commute to work. The Fleet Link program provides commuting vanpool service and guaranteed ride home service to state employees, but the participating employees have to pay the operating costs, and there is no tax benefit for the participating employees. A commuter choice program has been established under Section 132 of the Internal Revenue Code (IRC). Under this program, an employer may provide up to $65 per month to those employees who commute to work by transit or vanpool. The employer can deduct these costs as business expenses and the employees do not report the subsidy as income for tax purposes. The subsidy is considered a "qualified transportation fringe" benefit.

Employee commute trips to work make up about 28% of the nation's total VMT. A study in Houston reveals that every year 90% of Houston workers make an average of 500 commute-to-work trips, spending an average of 200 hours on the road (about 1 month work time) and $3,000 for gas and vehicle maintenance (about 7% of total household expenditure). These numbers may vary in other urbanized areas. However, an upward trend of work-related trips is generally true everywhere in the country. With the increase in trips comes an increase in air pollution.

Revisions/Actions Needed:

Investigate new initiative to encourage employers in "green fields" to expand opportunities for employees to commute in a more energy-efficient and less polluting manner by ultimately producing less trips through expansion of Ride Share Delaware. Explore expansion of the existing Travel-Link to include employers outside designated growth areas (possibly with the inclusion of monetary incentives). Review of such possible incentives and disincentives as the following:

Incentives

- Adopt similar state tax incentives as the Federal Commuter Choice Program to further encourage Delaware's employers to participate in an appropriate alternative commute program.
- Award participating employers the title of "Commuter Choice Employer", which will help in their recruiting efforts.
- Publicly recognize participating employers through outreach activities.

Disincentives

- Adopt more stringent requirements (land use requirements) regarding construction/expansion of employers' parking facilities—so as to limit parking.
- Compile employer-based mobile source emission inventory—for potential use in expanding impact fee legislation to include existing uses.

Resources needed to create/revise:

Authorization for DNREC and DelDOT to investigate expanding Ride Share Delaware work trips to include all industries and businesses including state government in "green fields". The analysis should include the exploration of possible incentives and disincentives needed to reinforce positive behavior.

Process for creation/revision:

- Create a focus group to investigate alternatives to the existing system of commutation.
- Focus group reviews existing information and prepares recommendation.
- Recommendation presented to Secretary

Schedule:

- DelDOT and DNREC Secretaries form focus group
- Focus Group reviews incentives and disincentives required to decrease pollution resulting from commuting, 1 year
- Final report to Secretaries – 16 months following formation of focus Group

Measures to guide progress:

Final Report regarding program, including any legislative or regulatory requirements

Interactions or inter-relationships with other agencies or units of government:

Coordinated program between DNREC and DelDOT.

Source Water Assessment and Protection Program and Wellhead Protection Program

Contact Person:

John T. Barndt, P.G.
Manager, Ground Water Protection Branch, Water Supply Section

Enabling Laws:

Federal Safe Drinking Water Act, Section 1453 and the Federal Clean Water Act 106—Ground Water

Policies/Regulations:

Source Water Assessment Plan, approved Feb. 1999 by EPA

History:

Both point sources of contaminants and non-point sources of contaminants can degrade public drinking water quality. Land-use decisions within source water areas need to consider the long-term impacts of land use practices on the sources of the public's drinking water. In addition, certain land use's can impede the infiltration of precipitation into the ground and thus reduce the quantity of ground water and stream flow, which provide drinking water.

Wellhead Protection Areas also will have a direct bearing on land use decisions. These areas should be considered as critical areas in local land use decisions since most Delawareans rely on these limited resources as their sole source of potable water.

Current Situation:

This program addresses the need to protect the sources of water for public drinking water system by providing for the following: (1) Maps are prepared which identify areas around Public Water Supply Wells that are the most likely to affect the quality of drinking water for that well or surface water intake; (2) Identifies all of the known existing or potential sources of contamination within mapped source water areas; (3) Prepares an assessment of the relative susceptibility of each public water system to contaminants within their source water area; and (4) Provides this information to the water suppliers and to the public.

The Wellhead program is similar to the source water assessment program except in a couple of key areas. The program is currently voluntary, including the management approaches and contingency planning elements. One of the key management approaches encouraged is the use of overlay zones that counties and municipalities have the vested ability to create.

Revisions/Actions Needed:

Recent passage into law of SB 119 (Source Water bill) mandates communities to adopt wellhead protection areas as defined by DNREC as part of their source water protection ordinances. By 2003, the Department will have put together a guidance document for the communities to follow. Technical assistance from the Department will be available to assist in the effort.

Resources needed to create/revise:

None needed at this time as resources have been obtained under the federal grant.

Process for creation/revision:

If necessary, state and/or federal funds could be secured to sustain the activity.

Schedule:

Schedule would be 2005 budget planning for FY06

Measures to guide progress:

- Measures are established in the program with federal approval consisting of completion of assessments and wellhead delineations in 2003
- Progress toward achieving 100% adoption of protection ordinances, along with number voluntarily adopting ordinances.

Interactions or inter-relationships with other agencies or units of government:

This activity can affect the local land use process, as the passage of SB 119 requires larger communities to adopt land use regulations to protect drinking water source. The Water Allocation Program also supports the activity of the Source Water Assessment Program. The Federal grant will terminate in 2006 and outyear funding may be an issue

if additional work is needed to complete this activity however, additional federal funding is likely to be available either from new grants or use of carryover.

Water Supply Planning

Contact Person:

Stewart Lovell, P.G.
Manager, Water Supply Section

Enabling Laws:

Title 7 Delaware Code Chapter 60

Policies/Regulations:

Regulations Governing the Allocation of Water, eff. March 31, 1987

History:

Land-use decisions need to consider the long-term impacts of land use practices on the sources of the water supply, particularly public drinking water. Land use, which increases impervious cover, can accelerate runoff and impede the infiltration of precipitation into the ground, thus diminishing recharge. This reduces the quantity of ground water, and lowered water tables also reduce stream discharges. Certain other land uses can pose a contamination threat to surface and ground water supplies. Development may be planned in areas that do not necessarily have adequate water supply or suitable quality requiring expensive treatment or costly extension of water service. Increased demand has seriously exceeded supply under certain conditions, such as in drought and in under-capacity systems. All these factors should be considered in land use decisions.

Current Situation:

This program (1) issues permits for major water withdrawals (> 50,000 GPD) to equitably allocate surface and ground water, protect the resource from overdraft, and protect existing water users from adverse impacts from new water withdrawals, (2) Monitors water usage statewide to identify demand trends and to assess availability of water for future allocations, (3) Performs drought management and water conservation activities, (4) Assists in long-term water supply planning and development and (5) Provides water usage data in support of resource programs, and for affiliated agencies and other interested parties.

Revisions/Actions Needed:

It is recommended that all unpermitted water systems be permitted in order to eliminate the large gap in supply allocation and resource management. It is recommended that all water suppliers perform an assessment of the impacts to the resource by existing or proposed new withdrawals. The assessment must model projected usage under a variety of conditions, including drought. Lastly, the state water plan is almost 20 years old and should be updated and kept current.

The water allocation program has never been fully implemented and substantial capacity development (staff and capital resources) would be required to support Livable Delaware goals.

Resources needed to create/revise:

Three scientists/engineers, with complete outfitting for supplies and equipment including additional office space.

Process for creation/revision:

The budget planning process.

Schedule:

On hold due to budget constraints.

Measures to guide progress:

Easily measured in terms of completion and maintenance of permitting activity and production of updated plan. These goals should be able to be accomplished in three to four years. Measure is progress toward 100% permitting of all major water systems, and adoption of new Integrated Water Management Plan utilizing impact assessments from the permittees.

Interactions or inter-relationships with other agencies or units of government:

This activity provides basic data on water systems and water use that directly supports the Source Water Assessment Program. Numerous state and federal agencies, communities, and private enterprises utilize the data generated by this activity for basic planning purposes and project development.

Brownfields/VCP Program

Contact person:

James M. Poling, Brownfields Coordinator, Planner IV

Enabling Laws:

The Hazardous Substance Cleanup Act (HSCA), 7 Del. C. Chapter 91. The entire Brownfields and Voluntary Cleanup Programs (VCP) are covered under HSCA. HSCA was promulgated in 1990 to respond to the growing number of sites identified as contaminated by the release of hazardous substances.

Policies:

HSCA enabled DNREC-SIRB to promulgate Regulations Governing Hazardous Substance Cleanup, a Remediation Standards Guidance, a Standard Operating Procedures for Analytical Program Under HSCA, and a HSCA Guidance Document. HSCA also enabled the creation of Guidance for Voluntary Cleanup Sites and a Standard VCP Agreement. DNREC-SIRB has also put together An Introduction to Delaware's Brownfield and Voluntary Cleanup Programs, a manual containing various applications and requirements.

History:

Delaware's Voluntary Cleanup Program has its origins in Delaware's state superfund law, formally known as the Hazardous Substance Cleanup Act ("HSCA"). HSCA was enacted in 1990 and was modeled after CERCLA. HSCA jurisdiction applies to sites that are not serious enough to warrant CERCLA intervention. HSCA, however, suffered from many of the same administrative ailments and negative results as CERCLA. Both were time consuming, costly, and both facilitated the continuation of sprawl. The sprawl phenomena was the result of developers opting to go into "greenfields", those areas where there was no liability worries concerning environmental contamination.

In 1993, the Voluntary Cleanup Program (VCP) was introduced into HSCA to handle these drawbacks more efficiently. The VCP was meant to streamline the administrative processes, involve the public in decision-making and save the public from the costly expenses of remediation and litigation. The VCP is just that, voluntary. It allows either a current owner or a prospective purchaser to enter into an agreement with DNREC to investigate and agree to a remedy of a potentially contaminated parcel.

Because the VCP likewise suffered from being overly burdensome and not use-friendly, it too was amended in 1994 and again in 1995. In 1994, DNREC delineated the VCP requirements with expedition as its goal. The program as amended: offered clear site eligibility standards; streamlined the application process; produced a standard agreement form which provided for termination by either party without penalty; allowed for site investigations to be conducted by approved outside consultants with minimal agency oversight; established soil/groundwater screening levels which made cleanup levels more easily attained; and provided Certificates of Completion of Remedy (COCRs) which stipulated that no further remedial action at the site would be required.

The Voluntary Cleanup Program alone, however, was not reversing the greenfield trend. While the administrative processes were becoming less entangled, the liability and financial incentives were not in place. The 1995 Brownfields Initiative amendments to HSCA went a long way to resolving these. The financial incentives to the Brownfield Initiative involved tax incentives and matching grants and loans. The tax incentives adoption required amending Delaware's tax code to advance the Brownfield redevelopment goals. The tax incentives are threefold: new employee; capital investment; and gross receipts. All three of the tax incentives differentiate between a regular Brownfield site and a Brownfield "target area". Target areas are those areas that bring development back into urban areas, thus preserving open space.

As part of HSCA's 1995 amendments, a Hazardous Substance Cleanup Fund was established. The fund provides individual loans up to $250,000 at 3% up to ten years. These monies must be used for remediation efforts and an agreement must be entered into first. Other monies are channeled through DEDO. In 2001 there is matching grant money up to $50,000 that can be used for site assessment. This matching grant money must meet certain requirements

Current Situation:

The Brownfields Initiatives proactively identifies sites whose redevelopment may be hindered by fear of environmental contamination and the attendant liability and costs associated with such sites. Sites are identified either through inventories or through targeted Brownfield Preliminary Assessments (BPAs). BPAs are funded through a Pre-Remedial Grant from the USEPA. BPAs are both identifying agents and incentives as they provide limited phase two investigations at no charge to the property owner. Once a Brownfield owner is aware of the spectrum of incentives, the goal is move the site through the administrative process of investigation and remediation, ie, the VCP.

DNREC's Brownfield/VCP program directly (Goals 1,5,6) and indirectly (Goals 2-4, 7-11) promotes *Shaping Delaware's Future: Managing Growth in 21st Century Delaware* and Livable Delaware concepts.

Economic Development: The underlying tenet of Brownfield development is the marriage of remediation and redevelopment of contaminated sites. Due to several factors, Brownfield redevelopment usually involves commercial uses. Incentives under the Brownfield/VCP Initiative (BPAs, COCR, tax incentives, DEDO matching grant) should be used as tools for spurring growth in urban centers.

Transportation: Brownfield redevelopment should integrate and advocate pedestrian and bike friendly modes of transportation. This would improve quality of life issues and aid air quality issues.
Water & Wastewater: Brownfield redevelopment in ecologically sensitive areas (Christina, Brandywine and Delaware Rivers, Inland Bays, Nanticoke River, Dravo Marsh, and the Piedmont Watershed) helps lower surface water loading levels and can create buffers and management areas.

Open Space: Expending money in promoting Brownfield redevelopment is the other side of the coin from purchasing open space and PDRs. Every acre that capacitates infill and economic growth in urban centers is an acre of open space that is protected.

Housing: Brownfield development is an interdisciplinary approach and should facilitate mixed-use housing and affordable housing plans.

Revisions/Actions Needed:

- A Brownfields Working Group was established to identify obstacles to Brownfield redevelopment and DNREC's current programs. Principal points that arose were:
  - The need to improve the back-end tax incentives, and broaden scope of the HSCA loan fund to more eligible parties;
  - The need to create a Tax Incremental Financing (TIF) scheme;
  - The need to create a single-point-of-contact for Brownfields efforts;
  - The ability of the State to perform and fund its own BPAs; and
  - Better coordination between SIRB, UST and SHWMB, and among SIRB and the counties and municipalities towards effectuating concerted permitting and review processes.

Resources needed to create/revise:

Fund 1.0 EE/ES II or III to conduct State-funded BPAs.

Process for creation/revision:

Involve both internal and external ad hoc committees/working groups to build consensus for both regulatory and legislative changes. Adhere to Divisions' regulatory processes. Conduct secondary and tertiary analysis on the Brownfields inventory to ascertain full scope of the problem. Coordinate better with the Counties and municipalities.

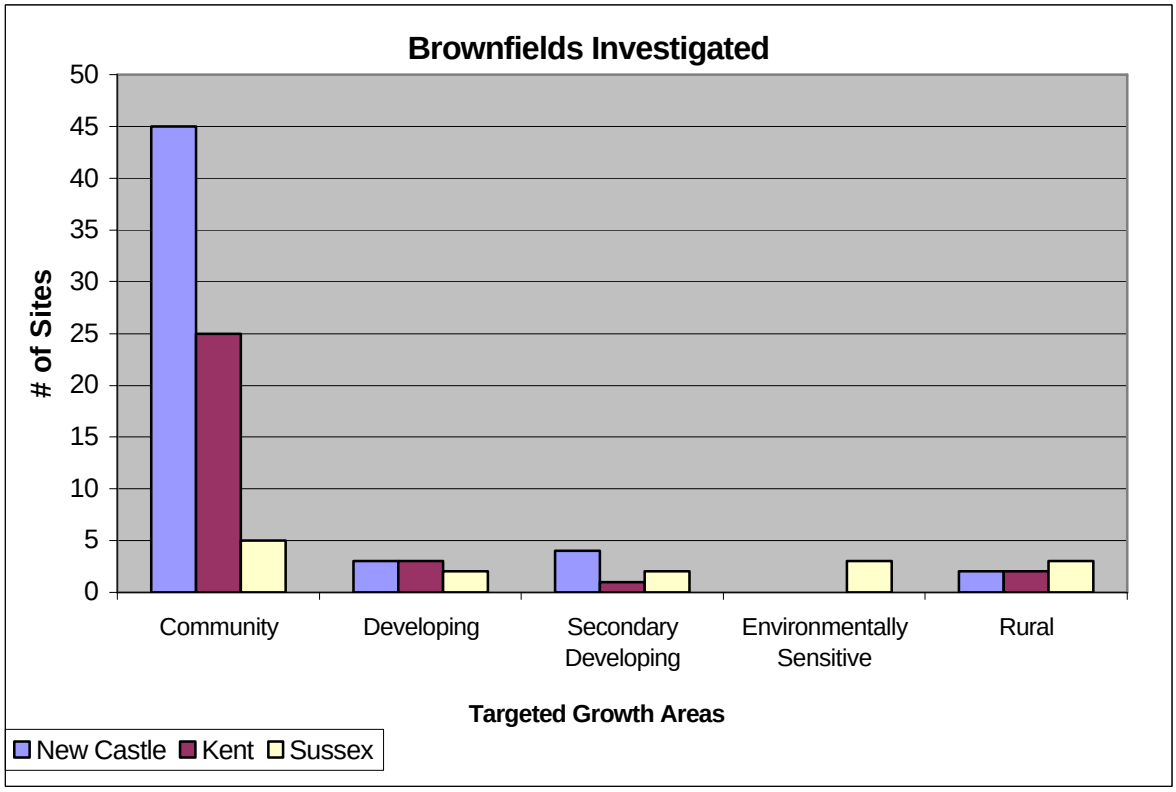
Schedule:

- Inventory and scope analysis: October, 2001;
- Regulations creating criteria for determination of all or part of a real property as a Brownfield: December 31, 2001;
- Regulations broadening scope of HSCA loan fund: February, 2002;
- Seek creation of a Environmental Scientist position for FY 2003 or beyond - as funding permits
- Better coordination with Counties and municipalities: Ongoing throughout Comprehensive plan updates; and
- Revision of back-end Brownfield tax incentives: June, 2003 or beyond.
- All of these activities require ongoing working group meetings, education and consensus building.

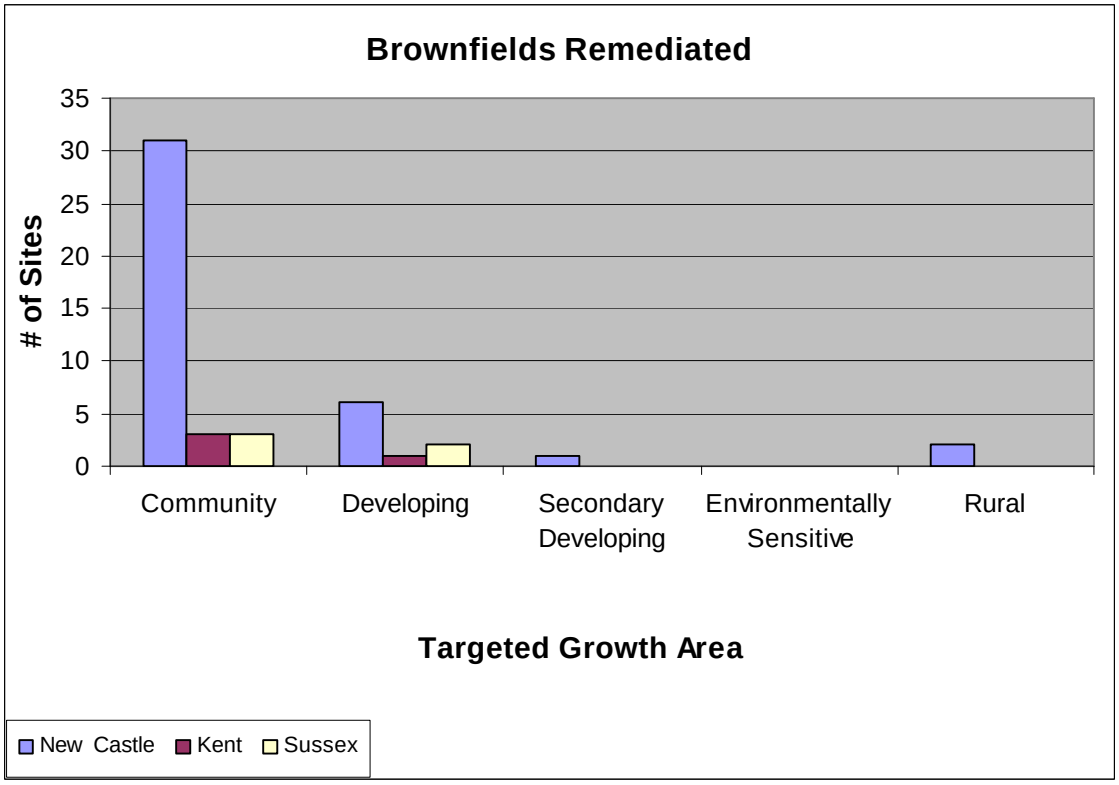
Measures to guide progress:

Brownfields activities fall into two general categories: Those investigated or currently under investigation, and those that have completed investigation and remediation activities, ie remediated. Brownfields investigated/under investigation category includes sites participating in the Voluntary Cleanup Program (VCP), administrative sites under HSCA, and Brownfield Preliminary Assessment (BPA) sites. The BPA sites are properties that are being investigated under the auspices of SIRB's Pre-Remedial grant administered under the EPA. They are generally larger areas, as opposed to individual parcels that are in locations expected to have some level of contamination due to historical use, and appear to be in prime, targeted 'developable' areas. (This analysis can also be done for VCP sites as well.)

The chart below represents the number of sites investigated or under investigation. Clearly, 'community' areas constitute the bulk of the work being done. Almost all of the Pre-Remedial dollars have been spent in 'community' areas, either in New Castle or Kent Counties. As a prefatory note, salvage yards are not included in these figures. (Unregulated salvage yards will be included as Brownfields once the data is complete.)



Remediated Brownfields are those that have received 'No Further Action' determinations or have completed an approved remedial plan (and will potentially receive a 'Certificate of Completion of Remedy'). Again, the bulk of the work is in the 'community' targeted areas. These numbers will rise as the RDC completes more work. This data is subject to change as definitional criteria is established.



Interactions or inter-relationships with other agencies or units of government:

As intimated above, DNREC-SIRB needs to better coordinate its Brownfields efforts with the Counties and municipalities. Planning issues would center on zoning, exemptions/exceptions/variances, permitting, and continued identification and redevelopment forecasting.

Equally important, the Branch needs to better coordinate and plan with other branches in the DAWM, specifically, with UST and SHWMB. Several classes of Brownfields sites have overlap jurisdiction issues with these branches (salvage yards, landfills, abandoned gas stations). Analysis, review and budgetary coordination/planning among the branches needs to be concerted (and potentially centralized).

While the SIRB works very well with its USEPA counterparts, there is room for flexibility in the grant processing. Likewise, Site Inspections (SIs) that were previously not on any CERCLIS list need to be exempted from placement on that once if SI monies is used. The purpose of this is to continue the goal of reducing the stigma of Brownfields generally.

Conservation and Preservation Easement Program

Contact Person:

Tim Kaden, DNREC, Division of Parks and Recreation

Enabling Laws:

Conservation Easement Act, Title 7, Delaware Code, Chapter 69

Conservation and preservation easements are interests in real property and may be acquired by any governmental body or any charitable corporation or trust. Purposes include retaining or protecting the natural, scenic or open space values of real property, assuring the availability of real property for agricultural, forest, recreational or open space use, and preserving the historical, architectural, archaeological or cultural aspect of real property.

Policies:

No adopted policies.

History:

The Conservation and Preservation Easement Act was established in 1978. This law was revised upon the signature of the Governor on July 18, 1996, enacting a new "Conservation Easement Act". This was passed to conform with a more uniform statute to better complements the federal statute.

Current Situation:

The Department of Natural Resources and Environmental Control as of June 2001 is the Grantee or the approving agency on 82 conservation and preservation easements. The Department of Agriculture is the Grantee on 1 easement. There are a total of 13 additional conservation easements held by other qualified conservation organizations and trusts. These conservation easements add to the overall land protection program. Since 1995 private individuals and Delaware corporations have placed conservation easements on lands that have a conservation value to the State of Delaware of $21,646,946.00. These private contributions help dramatically to meet our goals and objectives in protecting our natural resources and open spaces, and meet goal #2, protecting important farmlands and critical natural resource areas of "Shaping Delaware's Future" document.

Revisions/Actions Needed:

This activity currently needs to focus on consolidating required developmental zoning open spaces into contiguous units. Coordinating planned development subdivisions that concentrate required open spaces collectively will protect large landscapes with less infrastructure costs.

Resources Needed to Create/Revise:

Currently this program is operating as an unfunded mandate. In order to continue too more effectively protect significant resource lands, a minimum of a one-half time person with funds for program administration and monitoring is needed.

Process for Creation/Revision:

Work within the legislative/budget process to secure funding for the program. Another option would be to not accept any new conservation easement without also receiving monitoring fees.

Schedule:

On hold due to budget constraints.

Measures to Guide Progress:

The activities within the conservation easement program are also part of the mandated report of the Land Protection Act. Therefore, every five years the Secretary and the Council shall report to the Governor and the General Assembly. The Conservation Easement Program is part of the DNREC's overall land protection efforts contained within the Department's Strategic Plan.

Interactions or Inter-Relationship with Other Agencies or Units of Government

Internal and external relationship exists within the framework of a formal inter-agency conservancy working group. This group meets four times a year and rotates leadership roles between the public and private participants.

Open Space Program

Contact Person:

Ron Vickers, DNREC, Division of Parks and Recreation

Enabling Law:

Title 7 Delaware Code Chapter 75
Delaware Land Protection Act

The Land Protection Act formalized a process for acquiring state conservation lands. According to the law, State agencies may acquire any interest in real property for the following purposes:

- To protect and conserve all forms of natural and cultural resources.
- To protect and conserve biological diversity.
- To protect existing or planned parks, forests, wildlife areas, nature preserves or other recreation, conservation and cultural sites by controlling the use of contiguous or nearby lands.
- To preserve sites of special natural, cultural or geological interest.
- To connect existing open spaces into a cohesive system of greenways and resource areas.
- To provide for public outdoor recreation.
- To allow for water resource conservation.

Policies:

According to the law, "It is the public policy of the State and its political subdivisions that the preservation of open spaces shall be accomplished through the acquisition of

interests or rights in real property, or donation of said lands, and that said acquisition constitutes a public purpose for which public funds have been expended or advanced and should be continued."

History:

Delaware's Open Space Program was created on July 13, 1990 by the signing into law of the Land Protection Act and Subchapter II of the Realty Transfer Tax Act. The Division of Parks and Recreation in DNREC administers the program. The Act established a 9-member Open Space Council that recommends specific land acquisition projects to the DNREC Secretary, based upon advice of an interagency working group. Funding sources for the acquisitions have included conservation revenue bonds, the 21st Century Fund, legislative appropriations, and the realty transfer tax.

Current Situation:

The Open Space Council meets quarterly to consider projects. As of May 24, 2001, over 33,820 acres have been protected through the Open Space Program. This represents 191 projects at a cost of $149,522,616 of program funds with an additional $9,784,528 of other federal/state monies for a combined total of $159,307,144. Some of the program funds required matching funds from outside sources. To date $71,022,920 of conservation easements, bargain sales and land donations were generated by private conservation groups and non-state funds. The Open Space Program helps to meet goal #2- protecting important farmlands and critical natural resource areas- of the Shaping Delaware's Future document.

Revisions/Actions Needed:

(a) Fortunately, a long term dedicated funding source for open space acquisition was acquired via passage of HB 192 during the first session of the 141st General Assembly. Under that legislation, the Open Space program is to be provided with $9 Million annually for the next 17 years for open space purposes, a significant increase over the current $3 Million dollar funding level.

(b) The Land Protection Act calls on the county governments to adopt and incorporate overlay zoning ordinances and environmental performance standards for lands included within designated state resource areas. The standards shall include, but not be limited to: (1) establishment of site design requirements that minimize the loss of open space and associated values of state resource area lands and (2) establishment of technically based specific environmental performance standards and design criteria. To date the counties have not done so.

Resources Needed to Create/Revise:

(a) Current staffing levels for the Open Space Program are adequate. (b) The State Planning Office, with input from the appropriate agencies, would need to coordinate this activity with the counties. This may require the dedication of one full-time staff.

Process for Creation/Revision:

(a) Work within the legislative/budget process to ensure existing funding continues and that the Open Space program and the Agland Preservation Programs are considered for any surplus funding that might become available in the future. (b) Appropriate agency

staff and State Planning Office would coordinate activities with the county land use departments to develop a unified manual of guidelines, standards and procedures.

Schedule:

Coordination with the counties would be over the next 12-18 months and be a part of the scheduled comprehensive land use plan revisions.

Measures to Guide Progress:

The Open Space Program is part of DNREC's Strategic Plan. The measurable goal for this is the protection of 2,000 acres annually. This progress is tracked at the quarterly Open Space Council meetings and reported annually. Additionally, under the Land Protection Act, the program is required to prepare a 5-year report on the status and accomplishments of the program.

Interactions or Inter-relationships with Other Agencies or Units of Government:

The Open Space Program is well coordinated on the state level. The 4 agencies eligible for funding through the program are the Division of Parks and Recreation, the Division of Fish and Wildlife, the Division of Resource Management (Forestry), and the Division of Historical and Cultural Affairs. These agencies' proposed projects are reviewed and discussed by an interagency working group consisting of staff from DNREC, Department of Agriculture, Department of State, Delaware Economic Development Office, Department of Transportation, Department of Administrative Services, and representatives from each county land use and parks departments. The Open Space Program is involved with many private and federal conservation partners also and these activities are coordinated on an ad hoc quarterly basis.

Delaware Land and Water Conservation Trust Fund

Contact Person:

Kyle Gulbronson, DNREC, Div. of Parks and Recreation

Enabling Laws (b):

Title 7 Delaware Code Chapter 54 Section 5423
Delaware Land and Water Conservation Trust Fund

Policies:

Policies are established by the Delaware Land and Water Conservation Trust Fund Manual.

History:

The Delaware Land and Water Conservation Trust Fund was established in 1986 as an investment of state funds to provide an annual source of funding for the acquisition of open space and development of outdoor recreation facilities for municipal and county governments. The Fund was crafted to complement the federal Land and Water Conservation Fund. The principal of the Trust, now at $42 Million, is funded through Realty Transfer Taxes and must remain intact with only Trust-generated interest being

used to fund recreation projects. Annually, $1.5 million in earned interest is used to provide matching grants for the Park Acquisition and Development Grant Program and the Greenway and Trail Grant Program with $750,000 earmarked for each program respectively. As established in the Trust Fund legislation all county and municipal governments and park districts are eligible to receive financial assistance.

Current Situation:

The Trust Fund has provided over $12 million in assistance to almost all communities in Delaware and New Castle and Kent Counties. Sussex County has not participated in DLWCTF Programs. Passage of HB 192 increased the established assistance level from $1 million to $1.5 million, however, the increased funding still does not completely meet the need for matching fund assistance. During the FY 2001 grant cycle over $3.5 million in grant requests were received for park and greenway projects with total projected project costs of nearly $7 million.

In order to be consistent with Livable Delaware, the Delaware Land and Water Conservation Trust Fund grant programs will incorporate to the extent practical the State Investment Strategies and Shaping Delaware's Future goals.

The Delaware Land and Water Conservation Trust Fund can play a role in meeting Shaping Delaware's Future goals 1, 2, 6, and 9, by improving the livability of existing communities through recreation such as parks, playgrounds and trails and through protection of natural resources.

Revisions/Actions Needed:

Selection criteria for DLWCTF grants can incorporate the goals of Livable Delaware by placing greater emphasis on projects within established communities, developing areas, and secondary developing areas.

Resources needed to create/revise:

No additional resources would be required.

Process for creation/revision:

Division staff will incorporate the applicable goals of Livable Delaware into the current grant selection criteria.

Schedule:

Grant selection criteria will be been revised to place greater emphasis on projects within established communities, developing areas, and secondary developing areas. Revisions will be complete by February 2002. Revised grant selection criteria will be used to evaluate FY 2002 grant applications.

Measures to guide process:

Percentage of grant requests fulfilled. Achievable goal would be 80%

Interactions or inter-relationships with other agencies or units of government:

The Division working with local governments will help meet the recreational needs of Delaware's citizens.

Freshwater Wetlands

Contact Person:

William Moyer
Manager, Wetlands and Subaqueous Lands Section

Enabling Laws:

Title 7 Delaware Code Chapter 66

Policies/Regulations:

Delaware Wetland Regulations
Water Quality Certification Regulations – pending
Coastal Zone Management Program Consistency Regulations/Policies

History:

Delaware has 132,000 acres of freshwater wetlands and almost 90,000 acres of tidal wetlands. Wetlands are one of the most productive environments and provide a host of benefits, including filtering pollutants from the water, providing protection from flooding, and supplying wildlife habitat. Delaware's natural resources and wetlands are fragile and have been shrinking. Approximately 40,000 acres of wetlands have been lost in the past 40 years.

In particular, certain isolated freshwater wetlands in Delaware such as Delmarva Bays, white cedar swamps, and dune swale wetlands are especially venerable to the impacts of growth and sprawl. Haphazard and isolated developments throughout the State have fragmented the rural and coastal landscapes and are creating hardships for both agricultural and ecological concerns.

The current jurisdiction for wetland protection is spread over several agencies and federal wetland protection is not as effective or cohesive as it could be. Federal statutes regulating or otherwise protecting wetlands have evolved piecemeal over the years, and often utilize laws not originally intended for wetland protection.

State and local governments are in the best position to take the lead on wetlands protection. They are more aware of and responsive to the local needs than the federal agencies are. There can be several approaches that the State could consider including regulations; incentives/disincentives; acquisitions/legal restrictions; as wells as others, such as policy statements, educational efforts, and inventories. Also when considering growth management and freshwater protections, the State and local governments have the ability to use measures, such as land use and zoning authority, to assist in the protection of wetlands.

A Statewide program that protects and manages the highest valued freshwater wetlands or highest valued isolated wetlands is needed and should be explored. This program operating under the Livable Delaware goals would also help direct and manage growth through the State strategies. Federal regulatory program for protecting wetlands should remain in place.

Current Situation:

The "Wetlands Program" regulates activity in tidal wetlands and freshwater wetlands larger than 400 contiguous acres. Federal agencies are examining options for recapturing isolated wetlands.

Revisions/Actions Needed:

Begin the serious consideration of a freshwater wetlands Program that protects Delaware's unique isolated wetland habitats such as Delmarva Bays, white cedar swamps, and dune swale wetlands to name a few. Such legislation is consistent with the recommendations of the Biodiversity Symposium and, if crafted appropriately, should enjoy fairly widespread support. Whether or not the legislation is strictly focused on environmental improvement or serves as a Livable Delaware growth management approach will be determined once the legislation is written.

Resources needed to create/revise:

The Program will require at least one additional staff person if all highest value freshwater wetlands are regulated. If only isolated wetlands no longer regulated by the Corps of Engineers are involved, a portion of one staff position would be needed. Statutory changes and regulatory development would be needed to establish the new program.

Process for creation/revision:

Statutory and regulatory process to be followed.

Schedule:

Enact legislation: early 2002
Hire staff pending needed appropriation: summer 2002
Draft regulations: winter 2002/2003
Adopt regulations: summer 2003

Measures to guide progress:

To be determined and developed.

Interactions or inter-relationships with other agencies or units of government:

EPA, U. S. Army Corp of Engineers and the U. S. Fish and Wildlife. The program works with DelDOT, DDA, and each of the counties and municipalities in the State.

Identify how capital and budgeting and planning will be used to implement the Investment Strategies:

To be determined by the Secretary's Office.